

FOR
RICHER
FIELDS

Croplife

PUBLISHED
EVERY
MONDAY

WEEKLY NEWSPAPER FOR THE FARM CHEMICAL MANUFACTURER, FORMULATOR AND DEALER

Published by The Miller Publishing Co., Minneapolis, Minn.

Subscription Rates:
\$5 for 1 year, \$9 for 2 years

MARCH 28, 1955

Acceptance under Section 34.64,
P. L. and R. authorized.

No. 13

Service to Farmers Emphasized at Idaho Dealer Meetings

Idaho fertilizer dealers held a refresher course in fundamentals this spring when the University of Idaho Extension Service conducted five meetings, each in a different area, at which basic principles were reviewed and new developments in plant nutrition were discussed.

"Good, honest service to farmers is the keynote of each meeting," said Les Painter, soils specialist who set up and managed the program. "I think everyone was impressed with the importance of selling fertilizer to meet farmer needs, rather than talking into something for the sake of a fast buck."

It was pretty well recognized that the dollar a farmer spends for the right fertilizer is an excellent investment. Plant food taken out of crops each year is not being stored. We need more fertilizer, more important than that, we need the right kinds at the right times."

The meetings in Coeur d'Alene, Pocatello, Boise, Twin Falls and Idaho Falls.

(Continued on page 21)

House Unit Approves Rice Allotment Hike

WASHINGTON—The House Agriculture Committee has approved a bill that would increase the 1955 rice acreage allotment 91,000 acres over the 1,804,000 acres set by the U.S. Department of Agriculture.

Each state would be given a 5% increase. Last year, when acreage controls were not operative on rice, the total was 2,467,000 acres.

WASHINGTON WIRE

House Effort to Restore High Support Prices for Basic Crops Seen as Largely Political

By JOHN CIPPERLY

Croplife Washington Correspondent

WASHINGTON—The House Agriculture Committee got a lot of political hoop-la off its chest as it approved a bill to repeal the flexible price support provisions of the Farm Security Act. It would at the same time repeal the full 90% of support for the basic commodities—wheat, cotton, corn, rice, peanuts and tobacco. At the same time it would require the U.S. Department of Agriculture to set its price support for dairy products at 80% of parity.

It also included a provision which would submit to a wheat farmer referendum a two price system for wheat, through which the wheat farmer would obtain 100% of parity for that part of his crop which repre-

Farmer Planting Plans Indicate Increase in Feed Grain Crops

PROSPECTIVE PLANTINGS FOR 1955

Crop—	Planted acreages—			1955 as % of 1954
	Average 1944-53	1954	Indicated 1955	
		thousands		
Corn, all	86,122	81,893	82,033	100.2
All spring wheat	20,481	15,887	13,960	87.9
Durum	2,657	1,658	1,112	67.1
Other spring	17,823	14,229	12,848	90.3
Oats	43,968	47,284	47,604	100.8
Barley	18,673	14,517	15,776	108.7
Flaxseed	4,069	5,959	5,743	96.4
Rice	1,735	2,462	1,800	73.1
Sorghums for all purposes	14,206	19,882	21,322	107.2
Potatoes	2,004	1,423	1,434	100.8
Sweet potatoes	504	354	354	100.1
Tobacco*	1,734	1,645	1,561	94.9
Beans, dry edible	1,722	1,714	1,788	104.3
Peas, dry field	415	287	295	102.8
Soybeans†	13,740	18,753	19,951	106.5
Peanuts†	3,135	1,932	1,914	99.1
Hay*	74,328	72,770	74,360	102.2
Sugar beets	813	963	833	86.5

*Acreage harvested. †Grown alone for all purposes.

Construction Starts on \$30 Million Escambia Bay Chemical Corp. Plant

PENSACOLA, FLA.—Workers of the Chemical Construction Corp., New York, began pouring concrete March 21 for the new Escambia Bay Chemical Corp. \$30 million plant. It is expected to be completed in early 1956.

The new agricultural chemical plant is being financed by the Electric Bond & Share Co., New York, and its subsidiary, United Gas Corp., Shreveport, La. National Research Corp., Cambridge, Mass., has a 10% interest, with Electric Bond and United Gas each possessing 45% interest.

The name of the anhydrous ammonia and ammonia nitrate firm was originally Gulf Chemical Co., but was changed early this year to Escambia Bay Chemical Corp. after con-

versations with the Gulf Oil Corp. A national research official said the change was made because of its similarity to the oil firm.

The output of anhydrous ammonia and ammonia nitrate will be marketed principally in the Florida, Georgia and Alabama region.

January Super Output Up from Year Earlier

WASHINGTON—U.S. production of superphosphate for the month of January amounted to 203,826 short tons (100% A.P.A. (according to the Bureau of the Census, Department of Commerce. This figure represents a decrease of 1% from the December, 1954, output and is 11% more than the figure reported for the corresponding month of 1954.

Shipments of all grades of superphosphate totaled 131,544 tons for January or an increase of 21% from the previous month's volume and an 18% increase from the figure reported for January, 1954.

Stocks on hand at the end of January were 6% more than those held on Jan. 1, 1955, and 12% more than the quantities on hand Jan. 31, 1954.

Potash Sales Up

CARLSBAD, N.M.—New Mexico potash sales in 1954 were up 11% over the previous year, according to the Bureau of Business Research at the University of New Mexico.

Inside You'll Find

Insect Notes	4
Over the Counter	9
Oscar and Pat	10
Field Notes	11
What's New	14
What's Been Happening	16
World Report	19
Editorials	22
Meeting Memos	23
Index of Advertisers	23

WASHINGTON—Despite reductions in acreage in spring wheat, rice, peanuts, tobacco and sugar beets, farmers will plant 285½ million acres in 16 crops this year—an increase of 3.2 million more acres than was planted in 1954—according to the report on March 1 planting intentions released recently by the U.S. Department of Agriculture.

The major increases in acreage for 1955 come from expansion of feed grain crops, with the exception of corn, soybeans, dry edible beans and peas and hay. For corn and oats farmers will plant only slightly more of those crops than they did last year.

The largest of the feed grain crop expansion is found in barley where farmers, now planning to plant 15,776,000 acres, will increase acreage by 8.7% over 1954. The next largest increase is found in the sorghum crop where for 1955 a planting of 21,322,000 acres will be an advance of 7.2% over that of 1954.

A soybean acreage for 1955 of 19,981,000 amounts to 6.5% increase for this year.

Dry edible bean and dry field pea acreages will be increased by 4.3 and 2.8%, respectively, and the hay acreage increase is estimated at 2.2% over 1954.

The crops of Irish and sweet potatoes remain about at last year's level, registering only small acreage increases. An examination of the Irish potato acreage report shows that the slight advance in potato acreage comes from the 13 early states and that other sections of the potato producing states, except the 11 western states, are cutting back acreage.

For the 29 late states, which include the 11 western states; 1955 potato acreage will be approximately 1,077,400 or 99.4% of the 1954 crop.

(Continued on page 8)

Vietnam Granted \$1,425,000 FOA Fertilizer Grant

WASHINGTON—Foreign Operations Administration has announced a \$1,425,000 fertilizer authorization for Vietnam. The total includes \$1,275,000 for phosphate fertilizers and \$150,000 for potash fertilizers.

The contract period ends next May 31 and the ending delivery date is Sept. 30. Source is world wide.

FOA also announced a \$38,700 authorization to Formosa for insecticide spraying equipment. Procurement will be carried out through the Central Trust of China. Ending delivery date is Aug. 30, with source listed as the U.S. and possessions.

Other FOA authorizations were to Iran, \$29,029 for agricultural pesticides, April 30 ending delivery date, and to Iraq, \$1,500 for agricultural pesticides.

Program Set for California Fertilizer Conference April 26

DAVIS, CAL.—Four separate programs will be featured at the 1955 Spring Fertilizer Conference, scheduled for the Davis campus of the University of California April 26.

Individual sessions on vegetable crops, field crops, deciduous and citrus fruits, and pasture and forage crops will be provided in separate panel discussions with experts from both the fertilizer and agricultural industries and the university participating.

The morning program will begin at 8:40 a.m. in the Chemistry Auditorium on the agricultural college campus, and will feature reports to all delegates on subjects of general interest. A motion picture, "California Grows With Fertilizer" will be shown.

The program is designed to provide a maximum of facts that will be of interest to farmers, official

workers and fertilizer industry management, salesmen and dealers. The conference will be a cooperative offering of the University of California College of Agriculture, the Agricultural Extension Service, and the Soil Improvement Committee of the California Fertilizer Assn.

Japanese Beetle Campaign Launched

BOSTON — A campaign against Japanese beetles was kicked off here recently by Ellsworth Wheeler, University of Massachusetts extension entomologist, before the Massachusetts Federation of Garden Clubs.

The goal is to bring about an ultimate reduction in numbers of Japanese beetle grubs feeding on the roots of grasses. The idea started last year through the efforts of members of the Greater New Bedford Garden Club. At the meeting, Mr. Wheeler said the plan is to reduce the Japanese beetle population through the use of milky disease.

Richard E. McLeod Named Pfizer West Coast Sales Manager

NEW YORK, N.Y. — Richard E. McLeod has been named West Coast regional sales manager of the agricultural sales division of Chas. Pfizer & Co., Inc., J. J. Thompson, manager of the division, has announced.

Mr. McLeod joined Pfizer in 1952, one of the first group of nine salesmen to be employed by the newly established agricultural sales division. He began his career as a district representative in the Minneapolis area, and at the time of his promotion was feed supplement supervisor of the Midwest region.

ARKANSAS FIRM MOVES

WALNUT RIDGE, ARK. — The Jansen Supply Co., feed and seed firm here, has moved from its former location in the Lawrence Hotel building to the Hudson Equipment Co. building on Southeast Front St.



Harry E. Baldridge

Harry E. Baldridge New Sales Representative For Frontier Chemical

WICHITA—Promotion of Harry Baldridge to sales representative of the Frontier Chemical Co., Division of Union Chemical & Materials Co., Wichita, Kansas, has been announced by M. E. Clark, vice president, marketing. His territory will cover Kansas, Oklahoma, Arkansas, Louisiana.

A native of Columbus, Ohio, Baldridge joined the Frontier organization in August, 1952, as chief clerk of the Wichita plant. The company is currently producing caustic soda, chlorine, muriatic acid, benzene chloride and oilwell and industrial salt in bulk and briquette form. Principal plants are at Wichita, Kansas, and Denver City, Texas.

Richard C. Back Joins Carbide & Carbon Development Group

NEW YORK—Dr. Richard C. Back has joined Carbide and Carbon Chemicals Co., a division of Union Carbide and Carbon Corp., as entomologist for the agricultural chemicals development group, it has been announced by Dr. R. H. Wellman, manager of the group. Dr. Back's activities will be concerned primarily with Crag Fly Repellent and insecticides developed by Carbide and Carbon.

Previously, Dr. Back was employed for two years by Ethyl Corp., before that, he was at Boyce-Thompson Institute for Plant Research. In both these positions, he conducted research and development work on agricultural chemicals.

Dr. Back received his Ph.D. in insect toxicology from Cornell University in 1951, after receiving M. S. in entomology from Iowa State College in 1948 and his B. S. from Cornell in 1943.

Group Asks for More Farm Equipment Research

WASHINGTON—The Farm Home Equipment and Structures Research Advisory Committee met March 7-9 to review work accomplished and to recommend further research by the U.S. Department of Agriculture.

Recommendations developed as a result of this meeting included: (1) make engineering studies of machinery and equipment for accurately applying small dosages of poisons to control soil-borne organisms; (2) develop a combine that will not pick up noxious weed seeds and that provide easier accessibility to the rear portion of the machine; (3) expand research on fertilizer placement to permit design of effective fertilizer placement machinery.



if it can be bagged...



BAGPAK *will bag it better!*



Here are just some of the advantages Bagpak Multiwall Bags give you and your customers.

- Lower packaging costs • Reduced freight costs • Better stacking of filled bags • Both filled and empty bags require less storage space • Shipping and storage on Bagpak Disposable Pallets cut unloading costs • Maximum protection against sifting, contamination, infestation, dampness • Full measure always emptied • Minimum dust hazard • Advertising message can be printed on face of bags

Bagpak production and quality are backed by the tremendous countrywide facilities and resources of the International Paper Company. For complete information and suggestions as to how you can package and ship your product more profitably, write: CL20

International Paper Company, Bagpak Division
220 E. 42 Street, New York 17




DIVISION OFFICES: Atlanta • Baltimore • Boston • Chicago • Cincinnati • Cleveland • Dallas • Denver • Des Moines • Detroit • El Paso • Kansas City, Kansas • Los Angeles • Minneapolis • New Orleans • Philadelphia • Portland, Ore. • St. Louis • San Francisco • Seattle • Toronto, Canada
 IN CANADA: The International Paper Products, Ltd., Montreal, Ottawa, Toronto

Diamond Alkali Sales Hit Record High in 1954

CLEVELAND — Sales of Diamond Alkali Co., Cleveland, totaled \$93,530 in 1954, setting a new all-time peak for the firm, according to the company's annual report for 1954 released recently.

Sales of Diamond chemicals in 1954 increased \$6,771,251, or 7.8% over the 1953 total of \$86,734,279, the previous record high, thus making 1954 the second successive year Diamond's sales have climbed to a new level.

Earnings in 1954 were maintained on a substantially comparable basis with 1953, totaling \$5,528,600, equivalent, after preferred dividends, to \$1.10 per common share on 2,267,000 common shares issued and outstanding. This compares with earnings of \$5,939,189, or \$2.39 per common share in 1953.

Several factors contributing to Diamond's record sales performance and maintenance of comparatively stable earnings in 1954 were cited by Raymond F. Evans, chairman of the board:

A plus factor was the new volume provided by products in production for the first time. For example, polyvinyl chloride resin, which the company started to produce in 1954, gained solid consumer acceptance during the year. Most of our line of products maintained in 1954 levels with chlorine and cement showing substantial improvement over the previous year. Sales of chlorinated organic chemicals which increased some 25% contributed importantly to improved sales volume; however, this area of our business continued to be unproductive of earnings due chiefly to technical and marketing difficulties, most of which have been overcome at the year-end."

Capital outlay covering new productive facilities and continued expansion, improvement, rehabilitation and modernization of present plants totaled \$7,750,000. This figure includes a payment of \$2,000,000 toward the purchase of the chlorine-caustic soda plant at Muscle Shoals, formerly owned by the government.

Commenting on this new facility, Diamond's chief executive officer said its acquisition "the most significant step forward taken by the company in 1954."

The report further points out in connection that the diversity of Diamond's chlorine-caustic soda producing points resulting from this new acquisition, together with similar plants at Painesville, Ohio; Houston, Texas; Edgewood, Md., "gives the company considerable flexibility in the manufacture and marketing of these basic chemicals."

Consequently, the report continues, "it is planned to terminate chlorine-caustic soda operations at the Bluff and return this leased facility to the Government during 1955. This plant has been operated since 1947 largely as an auxiliary to the Houston plant and our need for leases with the Muscle Shoals acquisition."

Reporting on the company's research development and exploratory engineering efforts, Mr. Evans said Diamond in 1954 had spent \$3,080,000, or 3.3% of sales, on such activities, estimated that \$4,000,000, or 4.3% of sales, would be allocated for purpose in 1955.

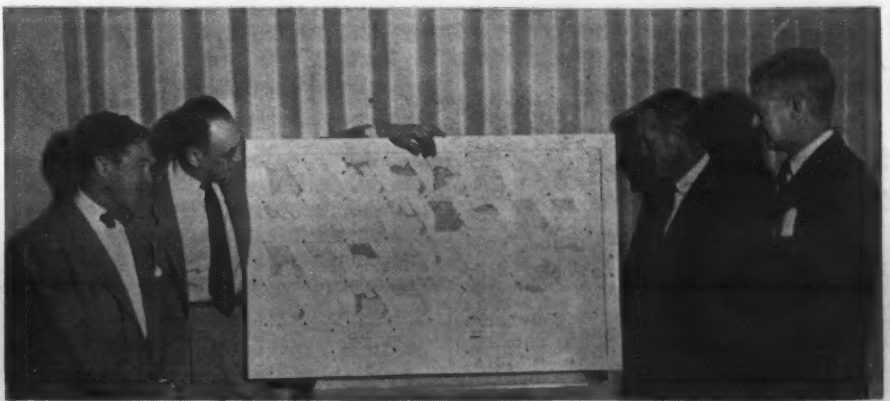
During the past 15 years, the report points out, the trend of these expenditures for discovery and development of new products and improvement of existing processes has increased from \$51,000 (.3% of sales) in 1940 to \$3,080,000 (3.3% of sales) in 1954.

W. H. Stone to Head Southern Fertilizer Safety Section

NEW ORLEANS — William H. Stone, plant superintendent of Wilson & Toomer Fertilizer Co., Jacksonville, Fla., was elected chairman of the Fertilizer Section of the Southern Safety Conference at the group's meeting here March 1.

Other officers were also named. They included Quentin S. Lee, assistant manager of Cotton Producers Assn. of Atlanta, vice chairman; and M. J. Hattier, Cotton Oil Co., New Orleans, recorder for the Section.

The nominating committee was composed of Vernon S. Gornito, manager of the insurance department of Smith-Douglass Co., Norfolk, Va.; Frank Kruck, safety director, Virginia-Carolina Chemical Co., Richmond, Va.; and Mr. Hattier.



AT MISSOURI MEETING—Missouri maps showing the infestation and distribution of insects that can be controlled by aerial application of insecticides drew the attention of aerial applicators at the second annual Aerial Applicators Short Course held at the University of Missouri recently. Stirling Kyd, second from left, extension entomologist at the university, helped prepare the map for use during the short course. Looking on are, left to right, Richard Reade, Mid-Continent Aerial Sprayers, Inc., Hayti, Mo.; John F. Neace, manager, Marsh Aviation Co., Phoenix, Ariz., and Russell E. Larson, agricultural engineer, U.S. Department of Agriculture, Washington, D.C. Mr. Neace and Mr. Larson appeared on the program as speakers during the short course. For a story of the meeting see page 1 of the March 14 issue of Croplife.



GIANT SERVANT OF AGRICULTURE

He climbs higher—who helps another up. To be the servant of agriculture has been the guiding purpose of our company since its inception. The providing of essential plant food to the fertilizer industry enables many manufacturers to achieve new sales goals.



POTASH COMPANY OF AMERICA CARLSBAD, NEW MEXICO.

General Sales Office . . . 1625 Eye Street, N.W., Washington, D.C.
Midwestern Sales Office . . . First National Bank Bldg., Peoria, Ill.
Southern Sales Office . . . Candler Building, Atlanta, Ga.

INSECT, PLANT DISEASE NOTES

Insect Activity Slow in Indiana

VINCENNES, IND. — Cooler temperatures slowed down bud development and prevented insect activity. No red-banded leaf roller egg masses have been found to date. No codling moth pupation has occurred to date. One tarnished plant bug was found in five peach trees, jarred March 21.

Grasshoppers Slated For Kansas This Year

MANHATTAN, KAN. — Heavy damage from grasshoppers may be expected throughout the season in the eastern tier of counties in Kansas, according to D. A. Wilbur, Kan-

sas State entomologist who based this statement on a fall survey of grasshopper eggs. He indicated that this year's infestation could be worse than that of last year which was the toughest since the 1930's.

The entire eastern third of the state is expected to suffer light to threatening infestations, he said. Some damage may be expected as far west as a line drawn through Sumner, Sedgwick, Harvey, Marion, Dickenson, Clay, Cloud and Republic counties.

Counties slated for "light infestations" include Gray, Meade, Comanche, Barber, Edwards, Pawnee, Barton and Stafford, all in south-central and southwestern Kansas.

Sherman and Cheyenne counties in northwestern Kansas were also due for "light infestations" of grasshoppers.

According to Mr. Wilbur, farmers are being urged to apply aldrin, toxaphene, heptachlor, chlordane and dieldrin to control the 'hoppers. The state entomologist indicates that farmers should start checking soon for evidences of grasshoppers. Early applications of pesticides should be placed where the eggs are hatching, usually near fence rows and roadsides, he says.

New Jersey Finds Red Mite Eggs

NEW BRUNSWICK, N.J. — Considerable numbers of eggs of the European red mite were found on peach twigs in Burlington, Camden and Gloucester counties about the middle of March. Application of a dormant oil spray was recommended to growers. — Leland G. Merrill, Jr. and Spencer H. Davis.

Pest Season Begins For Indiana

VINCENNES, IND. — By around the middle of March, the growing season was about 10 days advanced over that of a year ago. Insects were not active, but occasional newly-hatched aphids were found on buds of Dutchess. No adult red-banded leaf rollers have been found and winter carryover is extremely light in southern Indiana. Overwintering populations of codling moth larvae, however, are more plentiful than they have been since 1944. No pupation had occurred by the middle of the month. — D. W. Hamilton.

Plant Disease in South Carolina

CLEMSON, S.C. — Young peach trees are reported to be infested with spotted cucumber beetle in Eutawville. Crown gall disease has been found in Greenville. It was noted on the roots of an apple tree dug up there. A number of cases of this disease have been reported in the state. In one case, a nursery grower refused payment of 6,600 trees. In another case, a grower had 50% infection on 500 trees.

Hay Crop Insects Appearing in Maryland

COLLEGE PARK, MD. — On the Eastern Shore alfalfa weevils are showing some activity in the fields. Grubs of the clover leaf weevil and pea aphids are present in small numbers.

Corn borers are at a low ebb at

present; the survey conducted last fall showed a state average of borers per 100 cornstalks. Only one county, Washington, had over one borer per stalk.

Small mosquito wigglers are very abundant in ponds and rainpools at College Park. These will produce mosquitoes about May 1. Boxelder bugs have been particularly bothersome to householders in most parts of the state this winter. — Theo. L. Bissell and Wallace C. Harding.

Agricultural Pilot School to Open at Texas A&M in Fall

COLLEGE STATION, TEXAS — A school for agricultural pilots — the only such school in the country — will open at Texas A&M College here next October.

The new school is a joint effort of the Texas Aerial Applicators Assn. and the college, with an assist from the Civil Aeronautics Administration, U.S. Department of Commerce. It grew out of a suggestion by Gale F. Hanson, CAA agricultural specialist, at a recent conference.

"It takes a special kind of pilot for dusting and spraying operations," Hanson said. "And equally important, such a pilot needs good training to fly safely."

"As individuals," he told the operators, "giving such training is prohibitively expensive. But if you can go together with your land grant college, the cost will go down and the safety level will go up."

Several private companies offered to provide aircraft for the course and Dr. David H. Morgan, president of Texas A&M, agreed that "such a program definitely fits into our objectives as a land grant college."

Present plans call for a six-week course, with at least 30 hours of flight training. Total cost of the course, including room and board, is expected to be about \$500 per student. Applicants for the training, who must have a commercial pilot certificate, will be screened by the association members as well as by the college.

Mr. Hanson, who will advise on the curriculum, hopes that similar schools for agricultural pilots will be started at other land grant colleges to "fill a real need for this kind of pilot who are both skilled and safe."

Plant Explosion

BALTIMORE — Five persons were injured recently in an explosion at the Miller Chemical & Fertilizer Corp. here. The blast blew out the wall of a three-story frame structure behind the main building.



NEW FEATURES!
...that increase insecticide production; improve product quality.

***R.T.R. Ready-To-Run**
U.S. Pat. No. 2,591,721

R.T.R. UNI-BLENDER

Compounding Plants now incorporate micro-pulverizers and Stoker valve bag packers on all stock models.

THESE COMPLETE, COMPACT, Ready-To-Run units assure: maximum per hour production; uniform quality products...at minimum labor and other operating costs.

THE DUAL TYPE PLANT elevates, mixes, pulverizes, blends and packages dust concentrates and field strength dusts, including those involving liquid impregnation. Jacketed mixers if specified.

Compounding and liquid formulating plants also engineered to your specifications.

Write for technical bulletins.

POULSEN COMPANY
Engineers and manufacturers of materials processing and materials handling equipment.
2341 EAST 8TH STREET • LOS ANGELES 21, CALIFORNIA

R.T.R. Uni-Blender Liquid Formulating Plants liquify and blend toxicants used in production of liquid concentrates and liquid sprays.

NATURE and PREVENTION of PLANT DISEASES

By K. STARR CHESTER, Ph.D. — Stresses the practical aspects of plant disease control. Presents the essential features of plant pathology as exemplified in the leading diseases of important American crops. Extensive revisions of seed treatment, and spraying and dusting of fruits and vegetables are included. The latest developments in control practices, including the slurry, pelleting and vapor-heat methods of seed treatment, new non-metallic organic fungicides, innovations in methods of spraying and dusting are discussed.

525 Pages; 224 Illustrations\$5.00

COMMERCIAL FERTILIZERS, Their Sources and Use

4th Edition, by GILBEART H. COLLINGS, Ph.D. — Based upon the author's practical experience as an experiment station agronomist and teacher. Incorporates information on recent developments by agronomists, chemists, engineers and fertilizer manufacturers. An authoritative source on all problems concerning commercial fertilizers and their use in gaining larger yields of field and horticultural crops.

522 Pages; 160 Illustrations\$5.00

ORDER FROM

CROPLIFE, 2501 Wayzata Blvd., Minneapolis 5, Minn.

They Add Up to Bigger, Healthier, Faster CROPS

FERTI-LIQUID

The All-Purpose Liquid Fertilizer Complete with Penetrating Agent — Trace Elements — Plant Growth Stimulant

New, Advanced 10-20-10 Formula 40% NUTRIENTS

= Bigger, Healthier, Faster PROFITS for YOU

Other FERTI-LIQUID Features

Extremely easy to apply — no mixing, dust or odor
Non-corrosive — use safely with any type spray — tractor, jet, boom or aerial
Ties in with insecticidal fungicidal, herbicidal spray programs

Most Economical on a Plant Food (Nutrient) Basis
Retail for \$1.85 per gal. del'd

Att: Jobbers & Distributors. Write — Wire — or Phone for Protected Territory
CLOVER CHEMICAL CO. P.O. Box 10865, Pittsburgh 36, Pa.

Lion Oil Co. Nitrogen Sales Increase in 1954

EL DORADO, ARK.—All divisions of Lion Oil Co. showed increased volume of production and sales in 1954, according to the annual report of the firm.

Sales and operating revenues reached a new high of \$98,584,798, an increase of 9.6% over the figure of the previous year. Net income before provisions for taxes on income was \$16,525,426, compared with \$16,260 in 1953.

Net income for 1954 after all charges was \$11,071,426 or \$3.56 a share. For the previous year earnings were \$10,688,260 or \$3.46 a share.

In their letter to share owners T. Barton, chairman of the board, and T. M. Martin, president, called 1954 "one of the greatest years of accomplishment" in the history of Lion Oil Co.

The total net tons of nitrogen sold by the firm increased 18% and net receipts from sales were 23% higher in 1954—a year that saw the company's El Dorado chemical plant producing at an all-time high volume and the new Barton plant near New Orleans go into production.

Total of all nitrogen products manufactured for sale at the El Dorado plant increased 10% in 1954.

Anhydrous ammonia, the basic product of the plant, was produced at an average rate of 582 tons daily in 1954. Daily rate of production in 1953 was 576 tons.

Continuous plant operation at high production rates was possible as a result of process improvements, increased storage capacity and an effective maintenance program, the report stated.

During 1954 construction at the El Dorado plant was confined largely to the erection of additional storage facilities, consisting of four ammonia storage spheres with total capacity for approximately 6,500 tons, and one 6,000-ton tank for ammonium nitrate solution. With these new tanks the plant now can store about 15,000 tons of ammonia and 23,000 tons of ammonium nitrate solution.

Lion Oil's Barton Plant was completed in June, 1954. Its manufacturing facilities were gradually brought up to full production and operated at rates above the designed capacities of 300 tons of anhydrous ammonia, 430 tons of nitric acid and 550 tons of pelleted ammonium nitrate.

The plant did not go into production in time to take advantage of rising demand for nitrogenous materials and as a result much of that production went into inventory for later sales.

Prices for the agricultural chemicals manufactured by Lion Oil remained constant in 1954, except for phosphate of ammonia. The selling price of this material was reduced slightly June 1.

During 1954 the number of anhydrous bulk distribution plants of Lion Oil was increased. Plans for 1955 include further similar installations at locations favorable for shipment from either of the company's producing points and in areas where there is a sales potential.

CROP CARE BY AIR

SACRAMENTO — "Crop Care by Air" is the winning slogan selected by the board of directors of the Agricultural Aircraft Assn., Inc., after a contest. It was submitted by W. Pickell, Pickell & Associates, Los Angeles, manufacturer of aircraft and spray equipment. There were more than 150 entries in the contest.

Fertilizer-Pesticide Mixture Regulations Issued in Georgia

ATLANTA—Phil Campbell, Georgia commissioner of agriculture, has announced new rules and regulations governing commercial fertilizers and economic poisons sold within the state.

The new rules and regulations announced by the commissioner are as follows:

"Specialty fertilizers with pesticides for horticultural and ornamental uses (non-food or forage crop formulations) may contain organic pesticides, except systemics, and may be sold without restriction as to area or package size.

"Field crop fertilizers with pesticides (food, forage, fiber and tobacco formulations) may contain those organic pesticides that are known not to affect flavor or are

incapable of translocation so as to transmit residues, and may be sold without restriction as to area or package size except that there shall be no bulk sales or deliveries of these mixtures.

"All packages must be fully labeled showing both the fertilizer and pesticide guarantees and must be in conformance with both laws. All labels must be acceptable under the Georgia Economic Poisons Act and the Federal Insecticide, Fungicide and Rodenticide Act. Dual registration under the Georgia Fertilizer Law and Economic Poisons Act is required."

MALATHION ADDED

CORVALLIS, ORE.—Malathion to control black cherry aphids has been added to the recommended pest control program for cherries in Oregon this spring, Robert Every, Oregon State College entomology specialist, reports.

Atomic Energy for Industry Conference Set

SAN FRANCISCO — Morehead Patterson, president and chairman of American Machine and Foundry Co., New York, who is also U.S. representative for International Atomic Energy Negotiations, will address the banquet session of the Atomic Energy Conference for Industry to be held here April 4-5. His subject will be President Eisenhower's international atoms-for-peace program.

The two-day conference, sponsored jointly by the Atomic Industrial Forum, Inc., New York, and the Stanford Research Institute, Palo Alto, Calif., is expected to attract approximately 600 representatives from industry and agriculture.

NEW FIRM

DOVER, DEL.—A. A. Ammonia Service, Inc., has filed a charter of incorporation here.

VULCAN

the quality pail for
Agricultural Chemicals

Manufacturers of agricultural chemicals have come to know and depend on Vulcan Pails and Drums as top-quality containers!

Even those hard-to-hold chemicals are safe against contamination and discoloration with Vulcan's resistant Hi-baked Linings.



★ ★ ★

Every Vulcan Pail and Drum is precision made with the highest quality steel and carefully inspected and tested. Sizes range from 1 to 8 gallons in a wide variety of types, including plain cover, Open Head Lug Cover, Closed Head Drum type and with pouring spouts to fit every need.

★ ★ ★ ★ ★

Vulcan Pails and Drums will carry your products safely to wherever they go, and always act as your best salesman, for Vulcan's master Lithography can prominently and colorfully reproduce your tradename or sales message.



You can be sure, too, that service at Vulcan will be right up to the minute. Fast, flexible, personalized production gives you assurance of quick deliveries on short notice.

"An Independent Southern Company—Serving Southern Industry—"



VULCAN STEEL CONTAINER CO.

Main Office and Factory

3315 North 35th Avenue • Birmingham, Alabama • (P. O. Box 786)

NFA Chemical Control Section Issues Summary of Sampling Practices for Bagged Fertilizer

WASHINGTON — A summary of general procedures employed by state control officials in sampling bagged fertilizers was released recently by the Chemical Control Section, Plant Food Research Committee, National Fertilizer Assn.

According to Dr. Edwin C. Kapusta, NFA chemical engineer and secretary for the section, the compilation was prepared from information supplied by 39 state agencies in response to a questionnaire sent out by the section.

Because of some duplication and possible misinterpretation of some replies, the numbers listed under some replies do not correspond to the total

number of replies received, Dr. Kapusta points out.

"The primary purpose of this endeavor was merely to survey and catalogue the methods presently being used to sample bagged fertilizer," Dr. Kapusta said.

The summary of procedures follows.

Number of bags sampled: 31 reported following AOAC method; 2 reported closely similar method to AOAC; 6 reported substantial departures from AOAC method.

Sampler Used: 15 use slotted double tube*; 24 use slotted single tube*; 1 uses butter tryer.

Manner of Coring Bags: 32 re-

ported diagonal coring; 3 reported vertical coring; 20 reported horizontal coring; 16 reported two or more of above procedures.

Field Mixing: 24 field mix on paper or cloth; 5 field mix with riffle; 1 field mixes with special mixing and quartering device; 14 send unmixed aggregate to laboratory.

Field Reduction: 21 reduce sample in field by quartering on cloth or paper; 7 reduce sample in field with riffle; 1 reduces sample in field with special mixing and quartering device.

Size Sample to Laboratory: (Approximate)—5 reported entire sample to laboratory; 1 reported ½ pound; 20 reported 1 pound; 10 reported 2 pounds; 1 reported 3 pounds.

Sample Container to Laboratory: 18 reported glass (jars or bottles); 6 reported plastic bags; 4 reported paper bags; 5 reported other paper containers; 3 reported cans.

Bulk Sampling: 14 use slotted single tube; 15 use slotted double tube; 3 permit sampling with hand in case

of lumpy material; 4 reported no sampling.

Laboratory Sample Preparation

Initial Screen Size (nominal)

1 reported 7 mesh
7 reported 10 mesh
8 reported 20 mesh
4 reported 25-35 mesh
2 reported 40 mesh

Rough Grinder Used:

1 reported stone
3 reported mortar
1 reported Wiley
2 reported Bird
2 reported hammer
1 reported attrition
1 reported Baur
8 reported Mikro

Laboratory Sample Quartering

14 use riffle
16 Quarter manually

Final Screen Size (nominal):

1 reported 8 mesh
1 reported 10 mesh
23 reported 20 mesh
6 reported 25-35 mesh
6 reported 40 mesh
1 reported 50 mesh
1 reported 60 mesh

Final Grinder:

3 reported Mortar
1 reported Baur
1 reported Braun
1 reported Impact
1 reported Brown
1 reported Sturtevant
1 reported Wiley
4 reported hammer
15 reported Mikro

Size Final Sample:

3 prepare 2 oz. sample
15 prepare 15 oz. sample
2 prepare 6 oz. sample
7 prepare 8 oz. sample
1 prepares 10 oz. sample
1 prepares 12 oz. sample
3 prepare 1-lb. sample
2 prepare entire sample

* One uses both double and single tube.

† Two use both riffle and cloth in field.

‡ Some replies were not clear as to whether a double or single screen and grinding were employed. Therefore, there may be duplications in this and the following sections.

January—1955

Phillips Distributor Builds NH₃ Terminal In Columbia Basin

MOSES LAKE, WASH. — Phillips Chemical Co.'s anhydrous ammonia is moving into the Columbia Basin as a Phillips products distributor reported to Croplife.

Central Fertilizers, Inc., a Moses Lake owned concern, has built a small storage terminal on the Mawakee road spur here and has started application of CF 82.

The firm is owned by Phillips distributor Marshall Burrell; J. O. Ellis, local seed dealer, and Arthur Smith. Application work started two weeks ago with eight applicators each machine capable of fertilizing 40 acres a day, Mr. Burrell said.

"Nitragating" of irrigation water is planned later. CF 82 is produced in Texas and rail shipped to the Columbia Basin area. Hugh McCord, Wash., is handling CF 82 in the dryland wheat area of eastern Washington.

Storage tank for CF 82 at Moses Lake is first in Columbia Basin Phillips anhydrous ammonia fertilizer.

North Carolina Tonnage

RALEIGH, N.C.—Fertilizer shipments in North Carolina during January totaled 109,528 tons, a decrease from 113,845 tons during January of last year, according to the North Carolina Department of Agriculture. The total for the seven months, January through June, is 374,003 tons, compared with 370,945 during the corresponding period a year earlier.

CASH IN ON THE BIG DEMAND FOR THIS AMAZING NEW FLY BAIT!



Pittsburgh

DIPTEREX-199

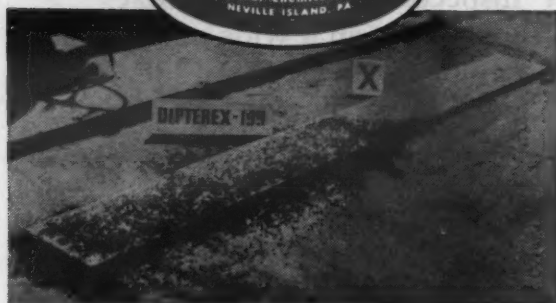
ONE POUND IS ENOUGH TO KILL 2 MILLION FLIES!

It's sensational! This revolutionary new fly-killing bait will outsell any fly-killer you've ever handled because it's so amazingly effective—so easy and economical to use. There's nothing like it on the market because Pittsburgh Dipterex-199 contains L-13/59, the new "miracle" fly killer discovery. Just look at these actual reports from users:

"98% kill in calf barn" . . . "Flies accumulated in piles up to one-half inch deep in 48 hours" . . . "Results were amazing!"

We're backing your sales of Pittsburgh Dipterex-199 with a complete advertising and sales promotion program. So don't miss out on this once-in-a-lifetime opportunity! Order your supply of Pittsburgh Dipterex-199 while there's still time to reap the big profits from this fast-selling item.

District Offices: Atlanta • Chicago • Dallas • Denver • Los Angeles • Memphis • Minneapolis • New York • Omaha • St. Louis • San Francisco • Walla Walla



The amazing kill power of Pittsburgh Dipterex-199 is confirmed by this test comparison with a leading fly chemical.



Dead flies littered the floor of this barn after a single application of Pittsburgh Dipterex-199.



† Trademark of Farbenfabriken Bayer, Germany

COAL CHEMICALS • AGRICULTURAL CHEMICALS • FINE CHEMICALS • PROTECTIVE COATINGS • PLASTICIZERS • ACTIVATED CARBON • COKE • CEMENT • PIG IRON

Louisiana State Expands Research

BATON ROUGE—Several new research programs designed to find answers to the more pressing problems facing Louisiana agriculture are being started by the Louisiana State University Agricultural Experiment Station, Dr. J. N. Efferson, director of the station, has announced.

The new projects include:

A cooperative U.S. Department of Agriculture-LSU program on nematodes and their controls with the major crops produced in Louisiana.

Pink bollworm research designed to answer problems which might occur if the insect became a major pest in the state.

Study of the problems involved and controls for stored grain insects, in rice and other Louisiana grains.

Expanded work on the long-time effects of the use of insecticides, fungicides and herbicides on soil conditions and plant growth.

Montana Sprayers Year of Opportunity Hopper Control

GREAT FALLS, MONT. — More than 100 aerial applicators and air operators attended the annual Montana Aviation Trades Assn. meeting here Feb. 25-26. Most of the discussion and attention focused on crop-dusting and spraying problems.

Range grasshopper control for the coming year apparently will offer applicators a possibility of considerable income in 1955, according to Dr. J. H. Pepper of Montana State College. U.S. Department of Agriculture surveys indicate that the 'hoppers will again be a problem to farmers in a large portion of western and central Montana, he reported.

Frank T. Cowan, of the USDA field service, reported on residual effects of pesticides.

Control of the alfalfa weevil has been shown to be the second largest job by the aerial applicator in Montana, other speakers pointed out. Seed spraying with 2,4-D still accounts for the great majority of Montana aerial application work, however.

Richard A. Foss, of American Chemical Paint Co., brought the applicators up to date on uses of heptachlor, and Tom Cowan, Chipman Chemical Co., discussed water-oil mixes for aerial spraying.

The applicators were taken somewhat to task by Frank Wiley, state director of aeronautics, on the question of spraying and dusting airplane accidents during 1954. The Montana accident rate was high last year, in comparison with other parts of the country.

"The sad thing is that many of these accidents could have been avoided if the pilots had used recognized safety equipment, such as shoulder harnesses, and sensible procedures," Mr. Wiley said.

Stuart W. Turner, consulting agriculturalist from Seattle, talked on the legal aspects of aerial application, stressing the liabilities of operators in certain kinds of damage suits.

Personnel Changes Announced by Pacific Coast Borax

NEW YORK—Pacific Coast Borax Co., Division of Borax Consolidated, Ltd., has announced a number of personnel changes.

L. L. Fusby has been appointed production manager, with headquarters in the Los Angeles office. He is a graduate in Chemical Engineering from the University of California. He has been in various positions with the company and most recently was general superintendent at Boron, 1951-1955. He will have overall charge of the production facilities at Boron, and Wilmington, Calif., as well as having charge of the design and operation of the pilot plants.

W. J. Diffley has been appointed superintendent of the Boron operations. Mr. Diffley has been a chemical engineer with the company, and production manager at the Wilmington plant for the past seven years.

Dr. D. S. Taylor has been appointed director of industrial research, responsible to the vice president in charge of research, George A. Connell. Dr. Taylor will have charge of coordinating all of the industrial research projects in the company. A graduate in chemistry from the California Institute of Technology Dr. Taylor has been a research chemist and research engineer with the company for the past 10 years.



NAC PANEL — Shown above are members of a panel who discussed the new Miller Bill at the recent Spring Convention of the National Agricultural Chemicals Assn. in St. Louis. From left to right are Joseph A. Noone, NAC technical adviser; Dr. W. G. Reed, chief, Pesticide Regulation Section, Agricultural Research Service, U.S. Department of Agriculture; Lea S. Hitchner, NAC executive secretary and panel moderator; Winton B. Rankin, assistant to the commissioner, Food & Drug Administration, and John D. Conner, NAC counsel. For complete coverage of the meeting see page 1 of the March 14 issue of Croplife.



life

to crops; death to insects

You can give new life and added vigor to your fruits or vegetables — and kill harmful insects at the same time — by adding GRACE UREA PRILLS to your regular pesticide sprays.

It's the simplest and quickest way to give your crops the supplemental nitrogen they need — over and above what is supplied to them in mixed fertilizers.

GRACE UREA PRILLS' fertilizing power — an unsurpassed 45% nitrogen — is full strength and quickly absorbed by foliage. You get top efficiency, because roots absorb any spray dropping to the ground. And GRACE UREA PRILLS are compatible with any commonly used spray material. This fertilizer is safe to handle, dissolves readily and does not corrode or clog spray equipment.

Suggested amounts for mixing with pest-control sprays are given in the chart at the right. Less concentrated solutions may be used, depending on the frequency of spraying and the specific nitrogen needs of your particular crop and soil.

Pounds GRACE UREA PRILLS suggested per 100 gals. Spray

VEGETABLES	LBS.
Tomatoes, cucumbers, cabbage, cauliflower, celery, lettuce, peppers, snap-beans, sweet corn, strawberries	4-5
Sweet potatoes	5-10
Potatoes	15
Carrots, parsley	20
FRUITS	
Apples	3-5
Cherries	5
Citrus	5-7½
Plums and prunes	10



USE GRACE UREA PRILLS FOR ALL TYPES OF CROPS • IN IRRIGATION WATER • AS A TOP-DRESSING OR SIDE-DRESSING • WHEREVER NITROGEN IS NEEDED

AVAILABLE IN 80 LB. MULTIWALL SACKS FROM YOUR LOCAL DISTRIBUTOR



GRACE CHEMICAL COMPANY

HANOVER SQUARE, NEW YORK 4, N. Y.

Atlanta, Ga.

Chicago, Ill.

Memphis, Tenn.

Antibiotic Sprays Discussed at Midwest Shade Tree Meeting

ST. LOUIS — The Midwestern Chapter of the National Shade Tree Conference, held its 10th annual meeting recently in the Chase Hotel here. A number of the papers presented were of significance to those interested in agriculture and allied fields.

Speaking on the subject "Trace Elements and Plant Health," Dr. E. R. Spencer, consulting botanist and plant pathologist of Lebanon, Ill., suggested that many of the ailments and general lack of vigorous health of plants, animals, and even man, might be due to deficiencies of nutritive elements in the soil. In support of this theory he cited the development of forage crops on abandoned coal strip-mine areas, and the excellent health of livestock pastured thereon. This he attributed to the abundance of trace elements in the soil.

"Concentration and Timing of Antibiotic Sprays for Control of Fire Blight" was discussed by Robert N. Goodman, professor of horticulture, University of Missouri, Columbia. Dr. Goodman said that antibiotics used in general control of disease organisms appear to act both as systemic chemotherapeutants and protectants, and that they have been found effective primarily against bacterial pathogens.

Fire blight, he explained, is a bacterial disease that attacks apples, pears and related plants. Briefly tracing the history of antibiotics used to control plant diseases, he said that the first successes in fire blight control came in 1951 in work done by Dr. A. E. Murneek of the University of Missouri.

In this early work infected apple trees, principally the Jonathan variety, were sprayed with the antibiotic materials Streptomycin, Terramycin and Thiolutin. It was found that both Streptomycin and Terramycin gave very good control of fire blight even at low concentrations under laboratory and greenhouse conditions.

In 1953 tests were conducted in apple orchards under conditions of natural fire blight infection. Dr. Goodman said. Here, combinations of Streptomycin and Terramycin, and Streptomycin alone were used. "Complete blight control was obtained," he said, "where 7 and 6 antibiotic sprays of 100 ppm concentration were applied at 4-day intervals beginning at either full pink or 30 to 50% of full bloom."

This extensive program was not economically feasible to the average fruit grower, however, and in 1954 experiments were made to ascertain "the lowest antibiotic concentration and the minimum number of spray applications necessary to provide adequate blight control."

The 1954 experiments were conducted in commercial orchards. Dr. Goodman said, and the antibiotic formulation used was Agrimycin, a commercially produced combination of Streptomycin and Terramycin. It was found that as little as 3 to 4 sprays provided good control of the fire blight disease.

The first spray was applied when the trees were in the 20 to 50% of full bloom stage, with successive sprays being applied at 4- to 5-day intervals. Using concentrations of 50 and 100 ppm provided good control of the disease in both the 3-spray and the 4-spray schedules; a 4-spray schedule in which a concentration of 25 ppm was used also provided a comparably high degree of control, Dr. Goodman said.

None of the antibiotic sprays, used, Dr. Goodman stated, im-

paired the fruit set, development and appearance. Slight marginal burn of foliage occasionally occurred where the materials were applied at 100 and 50 ppm, but not when the concentration was 25 ppm. Further tests of antibiotic materials are to be made at the University of Missouri this year.

In his paper on the topic "Tree Diseases in the Midwest," Dr. T. W. Bretz, professor of forestry at the University of Missouri, Columbia, discussed the Dutch elm disease, elm phloem necrosis and the oak wilt disease. Symptom expression of the Dutch elm disease, he said, consisted of wilting foliage frequently accompanied by "flagging" on one or more branches in which the leaves turn yellow; leaf drop; brown streaking in the wood just under the bark, and death of the tree.

Infected trees may die during the first year that symptoms appear; occasionally they live for several years after infection occurs. He emphasized that several other less serious diseases of elm trees cause wilting on one or more branches and streaking in the wood; hence, for positive identification of the disease laboratory test must be made.

As of 1954, he said, Dutch elm disease is known to be present in several of the midwestern states including Michigan, Indiana, Illinois and Missouri, and warned that further spread is to be expected.

Concerning control measures, Dr. Bretz explained that Dutch elm disease is carried from an infected to a healthy tree by bark beetles, principally the smaller European elm bark beetle. Control measures, therefore, are directed against these beetles.

He recommended the following procedure: (1) Prevent bark beetles from breeding in large numbers in the vicinity of elms to be protected by sanitation measures, that is, by pruning from otherwise healthy elms all weakened, dying branches; removal of weakened and dying or recently dead elm trees; and destruction of all recently dead elm wood. He explained that it is in such elm wood that the beetles breed. (2) Protect healthy elms by spraying DDT to prevent feeding by elm bark beetles and consequent spread of the disease. Spraying is especially important, he pointed out, in communities where the Dutch elm disease is known to exist.

After an elm has become infected with Dutch elm disease, Dr. Bretz stated, there is as yet no known curative treatment, nor has any satisfactory chemotherapeutic treatment been discovered that will control the disease.

Phloem necrosis, a second deadly disease of elms, also produces wilting, discoloration of foliage, leaf drop and eventually death of the affected tree in a manner very similar to Dutch elm disease. But Dutch elm disease is caused by a fungus, while elm phloem necrosis results from a virus.

"The diagnostic symptoms which enable one to identify phloem necrosis," Dr. Bretz explained, "are (1) the development of a butterscotch yellow to brown discoloration of the inner bark of diseased trees and (2) the presence of a faint but distinct odor of wintergreen in the diseased tissues."

Elm phloem necrosis is spread chiefly by a small leafhopper a sap-sucking insect that feeds on the leaves. Only the American elm and the winged elm are affected by this disease. "Control of phloem necrosis can be accomplished only by pre-

(Continued on page 20)

PLANTING PLANS

(Continued from page 1)

Of the major states Idaho indicates the largest expansion of acreage, with a boost to 166,000 or 107% of 1954.

Long Island acreage is expected to reach the level of 54,000 acres, an increase of 4% over the previous year.

Regionally the late state production is but slightly changed from 1954 as these estimates indicate: 9 eastern late states acreage indications are estimated to be 97.7% of last year, with Maine the largest producer showing a reduction of 2%; for the 9 central states acreage is estimated to be 97.5% of last year with sharp reductions in Indiana, Michigan and Wisconsin.

In the 11 western late states the increase over last year's acreage is accounted for largely by the big increase in Idaho, Colorado and Washington. Reductions, percentage-wise, in this group are largely shown in states of relatively small acreage.

For the seven intermediate states, New Jersey and Virginia are holding exactly to last year's acreage and a large acreage increase is registered for Delaware, a state of relatively small acreage.

In the sweet potato acreage, major increases are indicated for New Jersey and Louisiana with this latter state showing an intended increase in plantings to 103,000 acres as compared with 98,000 in 1954. Other states with comparatively small overall acreage in this crop show little change from last year.

Compared with the ten year average, 1944-53, the indicated planted acreage will be 354,200 for 1955 as against the ten year average of 504,200. Only New Jersey and Louisiana of the major sweet potato states are staying within striking distance of the ten year average acreage for this crop.

Farmers will plant 82 million acres of corn this year, according to their intentions as of March 1. This indicated acreage is only 0.2% larger than the 81,893,000 acres planted in 1954, which was the smallest U.S. corn acreage in the 26 years in which planted data are available.

The prospective planted acreage this year is 5% or over four million acres below average. In the past five years actual plantings have varied from the intended by as much as 3% under to 1% over, with the average less than 1% under the prospective acreage.

Farmer intentions for corn acreage present an interesting pattern of sales possibilities to the plant food industry. In the old Corn Belt, largely the commercial corn area where acreage allotments will be in force, intentions to plant corn show every state except Missouri and Kansas exceeding last year's intentions.

Corn farmers have never shown too great interest in acreage allotments and price support for this crop, except in certain clearly cash corn counties in northwestern Iowa and part of Illinois.

With the changing pattern of agriculture in the Southeast, attention may be focused on state yields within that group. Beef cattle production and other shifts from a cotton economy cite attention to such low yields as North Carolina with 28.1 bu. per acre; South Carolina, 18.6; Georgia, 14.6; Alabama, 17.4 and Mississippi, 18.5.

Acreage of all spring wheat planted in 1955 will be the lowest of record, if growers carry out their planting intentions. Indications point to only 14.0 million acres seeded this year, one eighth less than last year and slightly less than the previous low of 14.1 million acres seeded in 1942. The 10-year average is 20.5 million seeded acres of all spring wheat.

The largest acreage of record total-

ing nearly 47.7 million acres, will be seeded to oats, if farmers carry out their intentions. This total includes seedings made last fall and winter and those to be made this spring. This large acreage is seeded, it will exceed last year's 47.3 million, the previous high acreage, by nearly 1 million and the average of 44 million acres by 8%.

Growers intend to seed 1.8 million acres of rice in 1955. While 27% less than the acreage seeded last year this would still be about 1% more than the 10-year average. The reduction from last year is largely due to acreage allotments and marketing quotas for the 1955 crop. This would be the smallest acreage since 1951 when seedings were reduced to 1 million acres as a result of acreage allotments.

If growers carry out intentions as of March 1, they will plant 5,743,000 acres of flax for harvest this year. Although 4% less than the 5,959,000 acres seeded last year, the 1955 acreage would be third largest in 36 years of record. A record 6,182,000 acres was sown in 1943.

Farmers reported that, as of March 1, they intended to plant 1,914,000 acres of peanuts alone for all purposes in 1955. This is only slightly below the 1,932,000 acres grown alone in 1954, but 39% below 1944-53 average.

In the Virginia-Carolina area growers intend to plant the same acreage as in 1954, which was the smallest acreage planted in this area of record going back to 1924. Growers in the Southeastern area plan to plant only 0.4 of one percent fewer acres to peanuts grown alone for all purposes than in 1954.

In the Southwestern area growers intend to plant 2.6% fewer acres than in 1954. For the important producing states, the only changes indicated are decreases for Oklahoma, Alabama and Texas. South Carolina, a relatively minor peanut state, is the only one indicating increased acreage over last year.

Reports on farmers' March 1 intentions to plant tobacco indicate a total of 1,561,300 acres this year, a decrease of 5% from 1954.

Prospective acreage of flue-cured tobacco is estimated at 995,300 acres, a reduction of 5% from the 1,042,200 acres harvested last year.

As of March 1, Burley growers planned to set 372,000 acres, a reduction of 8% from last year. However, because of the serious over-supply of Burley tobacco, Congress is currently considering legislation that would authorize a referendum in which Burley growers would vote whether to accept a further reduction in 1955 acreage allotments. The 1949-53 average yield per acre, by states, applied to the 372,000 acres for 1955 computes to 491 million pounds.

In evaluating farmers' intentions to plant, USDA says that there has been wide improvements in soil moisture in recent weeks giving some optimism in crop prospects except in the Southwest.

For all crops USDA now expects that planted acreage will be approximately 353½ million acres, including cotton or nearly as large as in 1954.

It is interesting to observe that thus far reductions in the price support levels for the small grains and oilseeds do not appear to have any major effect on acreage for those crops. USDA officials say that ordinarily farmers are slow to react to reductions in price support levels but instead gear their planting intentions to price of the last crop. One exception, however, is where a price support level is sharply advanced and in this instance the farmer response to higher price support levels is immediate.

Speci
Reta
Secti

A S

FUMIGATI
ers Exchang
miniature d
for selling a

Disp
Prog
For

By
Cr

A miniat
gation prop
has worke
Varina (N
managed by

Mr. Bur
soil fumig
in the ce
agricultur
fumigation
and near i
gram. Of
interested
trigued th
to answer
Burt and

For ex
tomers t
\$30 in fu
bacco g
crop and
acre. Th
farmer c

Another
a six out
be purcha
ers who
ground f
with exce
ning to c
thorough

Mr. B
agricultu
ports the
intereste
his staff
strations

Varina
about 1
about \$7
chemical
firm har
fencing
farm too
poultry
merchan

Know
cides is
ing to t
and gro
informa
ture dep
tions, M
more p

Better Selling

A SPECIAL CROPLIFE DEPARTMENT TO HELP RETAILERS IMPROVE MERCHANDISING KNOW-HOW



FUMIGATION DISPLAY—Roy F. Burt, manager of the Varina (N.C.) Farmers Exchange, shows grower how soil fumigation of a tobacco bed is done. This miniature display created much interest and attention and was responsible for selling a lot of fumigant materials.

Display of Soil Fumigation Program Attracts Customers For North Carolina Dealer

By AL. P. NELSON
Croplife Special Writer

A miniature display of a soil fumigation program, including a soil bed, has worked out very well for the Varina (N.C.) Farmers Exchange, managed by Roy F. Burt.

Mr. Burt and his staff rigged up a soil fumigant display on a counter in the center of this well stocked agricultural supply store, placed fumigation equipment and signs in it and near it, explaining the whole program. Of course, while the display interested tobacco growers and intrigued them, it was still necessary to answer many questions, which Mr. Burt and staff were glad to do.

For example, one sign told customers that for a cost of about \$30 in fumigant materials, the tobacco grower could protect his crop and reap profits up to \$350 per acre. This was language which the farmer could understand.

Another sign told the grower that a six outlet soil fumigation kit could be purchased for \$145. Tobacco growers who have been doing above the ground fumigation for many years, with excellent results, are now beginning to do a still better job through thorough soil fumigation.

Mr. Burt, who has managed this agricultural company since 1946, reports that growers are tremendously interested in soil fumigation. He and his staff plan to have more demonstrations of this type seasonally.

Varina Farmers Exchange sells about 1,000 tons of fertilizer and about \$75,000 worth of other control chemicals annually. In addition the firm handles and sells a lot of farm fencing, farm hardware, sprayers, farm tools and seeds. Some feeds and poultry and hog equipment are also merchandised.

Knowledge of fertilizers and pesticides is a valuable asset here in selling to the farmer. While the farmer and grower do get much valuable information from the state agriculture department and experiment stations, Mr. Burt reports, he also wants more product knowledge from the

dealer. Mr. Burt and his staff constantly keep informed about the products they sell and try to follow up on the results which the customers get.

"We have found that customers get good results from 10% TDE in controlling tobacco worms," states Mr. Burt. "They also use quite a bit of 1% Parathion dust over tobacco beds. And D-D has proved effective on root knot nematodes."

Mr. Burt tries to attend all the fertilizer information and disease control meetings held in the area by the state experiment station staffs. Here he meets many farmers, learns much about their problems and gains information on how he can key his merchandising ideas to better meet their needs. "It is always a wise investment of time to attend such meetings," he states.

While Mr. Burt uses some newspaper advertising, he finds direct mail also very productive of results. He likes to use a semi-stiff yellow card, larger than a postcard. On the front it shows a picture of the store and also a new warehouse addition, as well as outdoor display of products. These direct mail pieces are sent several times a year to a mailing list ranging up to 1,000 farmers and growers in the region.

Because of their different color and layout, the direct mail gets attention from many prospects and customers. Some of the copy on the direct mail cards lists products and prices, and sometimes the copy is educational.

"All the fertilizer we sell is bagged," reports Mr. Burt. "The tobacco grower is predominant on our customer lists although cattle raising and dairying are also beginning to attract many farmers in this region."

South Carolina Tonnage

CLEMSON, S.C.—February fertilizer shipments in South Carolina totaled 137,020 tons, according to invoices submitted by registrants to the state Department of Fertilizer Inspection and Analysis. Of this total, 82,373 tons were mixed fertilizer.



SHOP TALK

OVER THE COUNTER

FOR THE DEALER

By EMMET J. HOFFMAN

Sales managers from several manufacturing firms recently compared notes in an effort to find out why a relatively small percentage of dealers give them the majority of their business. They found out some interesting things.

Several sales managers said that 10% of their dealers give them about 75% of their total business, leaving 25% of their sales volume for 90% of their dealers. All agreed that about 65% of the dealers weren't selling "intelligently."

One sales manager said his firm's officials were anxious to find out what characteristics the highly successful dealers have in common and why they were "intelligent" retailers. "We have arrived at conclusions, and have the temerity to make a list of these common characteristics," he said. What was found out, he went on, astonished company officials.

The desire for money and fame was not the main characteristic, it was found out. First, it was the genuine desire to serve, to be of constant help to the customer, to create pride in achievement and to raise the standard of living in his farm area, that distinguished all highly successful retailers.

Second, the management practices of the highest money-making dealers are much better than those not so successful.

A third characteristic of the successful dealer is that he has emotional stability.

Finally, these successful dealers all have enthusiasm, they like business and they like people.

A New Movie

One of the newest industry films to extol the virtues of fertilizer usage is a 27-min. color movie which has just been released by the Spencer Chemical Co. The film is called "George Tackles the Land."

Dealers, county agents, extension workers, farm organization representatives and others interested are encouraged to request specific showing dates through Spencer's Kansas City office.

The film handles the fertilizer subject with suspense and humor, yet manages to present sound agronomic principles in the use of plant

foods, say those who have seen the first showings.

Adding a definite touch of authenticity to the film's cast of characters are two Missouri dirt farmers, Bill and Joe Marshall of Marshall, Mo., who are expert corn growers. Unique use is made of an elf, "Mr. N," who in real life is Bill Barty, the well known midget in the Spike Jones TV show.



"MR. N"—The elf, "Mr. N," played by the well known entertainer, Bill Barty, uses his whimsical tactics to educate a farmer to the benefits of fertilization in Spencer Chemical Company's new film, "George Tackles the Land." Here Mr. Barty tells Dave Van Aken, left, Spencer representative for Kansas, and Claude Byrd, manager of agricultural sales, about some of the finer points of acting.



GEORGE DOES IT—Bill (left) and Joe Marshall (right), Marshall, Mo., successful corn farmers do quite well as movie actors, too. They play parts in Spencer Chemical Company's new fertilizer movie, "George Tackles the Land," just released. The George in the title is George Johnson, center, a city fellow who turns farmer but makes a mess of things—until he finds out about fertilization.

Better Selling

Richer Sales Fields for Dealers

CROPLIFE, March 28, 1955

CROPLIFE



Doing Business With

Oscar & Pat

A lover of schedules was Oscar Schoenfeld, pudgy, balding, penny-watching partner in the farm supply business of Schoenfeld & McGillicuddy. It was he who always got to the store first each morning at 6:45. It was he who opened the door, snapped the lock off, turned up the thermostat and answered early morning phone calls from farmers who wanted quick delivery.

"They always find me at the office on time," Oscar often told Minnie, his dutiful wife. "They don't find me sleeping at seven in the morning like certain others I know." Meaning, of course, his partner, Pat McGillicuddy, strong on public relations and selling but weak on detailed cost analysis.

Oscar always went through the morning mail, parceled it to the various departments such as Pat's desk, Tillie, the bookkeeper, the warehouse loading area, etc. Walking around like this, Oscar always felt important, very important. He was the fellow who made things hum early in the morning.

And sometimes, when Pat would go directly to make a farm call from his home in the morning, and not show up at the office until noon or later, Oscar was truly in his glory. With Pat absent, it seemed to Oscar that he was the one and only boss of the business; that it was his alone, and he would strut around importantly giving orders here and there, his sharp brown eyes always looking for ways to cut down costs.

One such day when Pat was out making calls, Oscar saw a man come into the office carrying what looked like a tape recorder.

"This is for Pat McGillicuddy," the man said. "Where shall I put it?"

"Did he buy it?" Oscar inquired coldly.

"How do I know?" said the man irritably. "Sid Porter just told me to bring it here, that's all I know. Come on—where do I put it? I ain't gonna hold this heavy thing all day."

"On that desk," Oscar said icily, pointing at Pat's heaped up desk opposite his own, "if you can find a place where it won't fall off."

The man just slid the tape recorder onto the desk and shoved the magazines into a higher stack. Then he departed.

Oscar looked at the boxed tape recorder as he would at a naughty child. "Huh, I'll bet that thing cost \$200," he snapped. "I hope McGillicuddy didn't buy it, but it would be just like him."

Tillie Mason began to get nervous. She always got nervous when she feared a blowup between Oscar and Pat, the German and the Irish, so different in character, and yet who made an excellent business team. Fights made Tillie's ulcer act up. Lately, it seemed the ulcer was always acting up in this farm supply routine.

Sitting at his desk figuring discounts, Oscar kept eyeing the tape recorder. Finally, he got up and took the cover off. "It's got a tape on it ready to play, Tillie," he said. "Do you know how to make this thing work, Tillie? I would just like to

hear what that crazy Irishman has been up to."

"Oh, do you think we dare?" Tillie said. "Mr. McGillicuddy might not like it."

"Huh, he does lots of things without consulting us," Oscar said.

So Tillie, at Oscar's direction

turned on the tape recorder. At first, there was only the slight grinding as the tape moved along. Then a girl began singing a popular song whose words went something like this, "If I ever needed you, I need you now."

"Oh, what junk!" Oscar said. "Turn it off. McGillicuddy wastes his time

on stuff like that."

Just then the song stopped, and they heard Pat's voice. "Yes, friends, the girl says she needs the boy. But do you know wheat could be singing that song, too? Wheat could be singing that it needs fertilizer, too, just as much as the girl needs the boy."

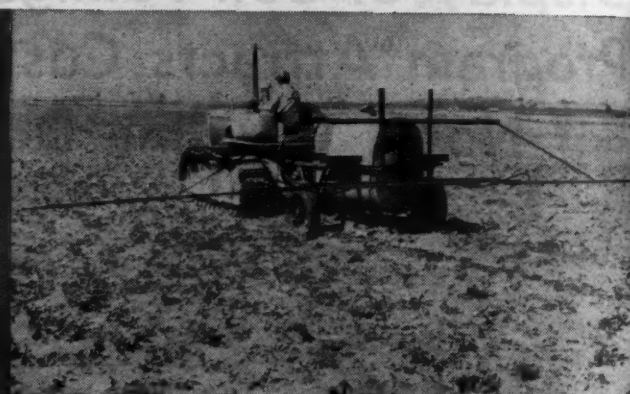
"Do you know that a 30-bu. wheat crop requires the equivalent of 1 lb. ammonium nitrate, 100 lb. superphosphate and 40 lb. muriate of potash? Wheat is a slow eater with big appetite, according to the experts at Kansas State College. Wheat all need something real badly in the life, and good wheat sure needs lots of fertilizer. You can get it from Oscar and Pat. . . . Ask us."

At this point, the astonished Oscar

Moving ARCADIAN fertilizer makes big-profit business



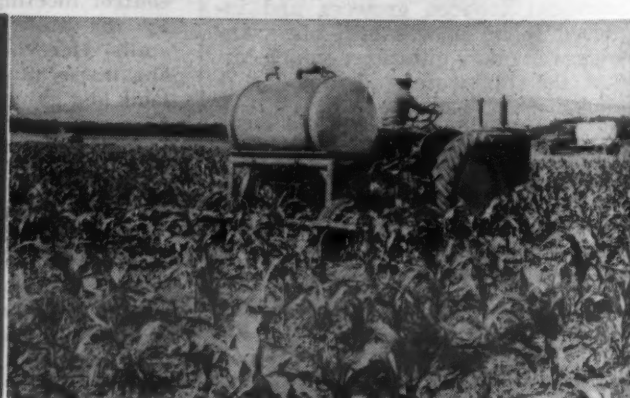
The balanced fertilizer for modern crops, ARCADIAN 12-12-12 packs concentrated growing power in easy-lifting 80-pound bags. Every firm granule is complete plant food rich in nitrogen, phosphorus and potash. You handle less weight—farmers handle less—you both get more out of it.



Spreading nitrogen on 100 acres per day is easy with new ARCADIAN low-pressure Nitrogen Solutions. A tractor tank with spray boom or dribble tubes does the job—with no bag for dealer or farmer to lift. Sell ARCADIAN Nitrogen Solutions and application equipment.



A labor-saver if there ever was one, ARCADIAN UREA 45 Nitrogen Fertilizer packs 45 pounds of nitrogen in every 100 pounds weight. It's the most concentrated dry nitrogen available, makes a good payload for you and the farmer.



Side-dressing 40 to 80 acres a day with nitrogen is easy with low-pressure ARCADIAN NITRANA® Solutions and is a fast-growing practice. Both NITRANA and application equipment are making big sales for handlers of the ARCADIAN line.



Plowdown of fertilizer is the way more and more farmers turn sod, stalks and straw into nitrogen-rich organic matter that builds bigger crops while it improves the soil. ARCADIAN products are ideal for this market that spreads fertilizer sales over the year.



Machinery does the heavy work for you as well as the farmer when you handle and sell ARCADIAN Nitrogen Solutions. They save labor and backaches, speed up handling, and build profitable new fertilizer and equipment business all in one.

and Tillie he...
old refrain...
The song...
was talking...
same tune...
how he beg...
"Seed, see...
"Fertilize...
"Verily, v...
"It will bl...
Oscar's fac...
ust like the...
television. He...
ness. He—"
He broke c...
another comm...
"Spray, sp...
"Give the...
"DDT and...
"Kill the...

New, impro...
nitrogen such...
American N...
move in volu...
Nitrate of So...
A-N-L® Nit...
to new style

Tak

S

A

FIN

- ☐ UREA 45%
- ☐ 12-12-12 Granular
- ☐ American Improved
- ☐ A-N-L® Pellets
- ☐ Nitrogen Solutions
- ☐ Non-Burnable UREA
- ☐ Low-Pressure Nitrogen

Better Selling

Richer Sales Fields for Dealers

and Tillie heard a cello playing the old refrain. "Row, Row, Row Your Boat. . ."

The song stopped and again Pat was talking, humming in fact the same tune that had been playing. Now he began to sing,

"Seed, seed, seed your lawn,
"Fertilize it, too.
"Verily, verily, verily, verily,
"It will bloom for you. . ."

Oscar's face was red. "He's silly, just like those fools on radio and television. He makes fun of this business. He—"

He broke off as Pat began singing another commercial.

"Spray, spray, spray your shrubs,
"Give the bugs the rush,
"DDT and Parathion,
"Kill the bugs, by gosh."

At this point the talking stopped, and some fiddlers started playing a snappy "Turkey In The Straw." Bert Morrison, a burly farmer walked in right then, heard the peppy music, and getting in the mood of the music did a fancy jig for a minute or so. Ed Kaskey, another farmer, seeing Morrison jig, came through the connecting, glass paneled door from warehouse to salesroom and stood grinning.

Suddenly the snappy music stopped, and once again Pat sang a jingle, telling about what farmers needed to produce a big crop. "Why, lots of quality fertilizer is just as important in producing a big, profitable corn crop as a new hat is to a woman in church on Easter morning."

Morrison and Kaskey began to laugh. "That darn Pat can never be serious, even when he's sellin'," grinned Morrison.

"I seen him at a wedding once over in Pumpkin Hollow, but that's another story." And he looked at Oscar.

"Hearing Pat reminds me I need fertilizer," Kaskey said. "Still got some, Oscar?"

"I need some, too," Bert Morrison said. "In fact, I might buy some right now if'n you turn that tape back and play 'Turkey In the Straw' over again. Golly, I like that piece!"

BEAN SUPPORT

WASHINGTON—The U.S. Department of Agriculture has announced that the national average support level for 1955-crop dry edible beans will be \$6.36 per hundred pounds. This is 70% of the Feb. 15 parity price of \$9.08 per hundred pounds.



If your county agent hasn't gotten you dealers together for a discussion on weeds and pests . . . see him and suggest a meeting. He can obtain the services of the state "bug man," agronomist and what have you.

Recently we had a garden school in our county. It was a bang-up success. The farmers and their wives plus business men and their wives attended and we averaged about a hundred each night for three nights.

You know, a good gardener is just about always a good neighbor.

There is so much to know about making a good garden—in fact there's a mighty lot to know about agriculture. I've tried to be a good county agent for a bit over 30 years, and I've tried to keep informed. However, I tell the fellows, "I don't know all the answers, neither do the specialists, the agricultural teachers, fertilizer salesmen, dealers nor the farmers," and then I tell 'em, "we are all having a good time looking for the answers together."

I am acquainted with one dealer, who stays right on my coat-tail all the time. He'll drop in before he buys his spring or fall supplies and puts questions to me like this: What are you advising the farmers to sow and how much, and what amount of plant food and what ratio, and do you have anything new on killing bugs?

In our county the farm people have over 20 organized community clubs and quite a few business men attend their monthly meetings. If your farm people have similar clubs, visit them along during the year. You can't beat public relations.

Fertilizers to the farm fit business for you!




New, improved forms of dependable nitrogen such as large-crystal ARCADIAN American Nitrate of Soda continue to move in volume. Free-flowing ARCADIAN Nitrate of Soda and pelleted ARCADIAN A-N-L® Nitrogen Fertilizer are adapted to new styles of farming.

Proof of the profits in modern ARCADIAN Fertilizers is being shown in Agricultural College experimental plots like this one on wheat, as well as in field days and farmer-dealer demonstrations. When you sell ARCADIAN, this practical proof helps bring you new customers, new sales.


Expanded plant capacity for making the newest, most modern forms of fertilizer is part of the continuing program Nitrogen Division is aiming at the fast-growing market for more and better plant foods. Your customers are buying ARCADIAN —so sell ARCADIAN for extra profits.

Take advantage of this double-barreled SALES OPPORTUNITY!



Arcadian

Make the most of the ferment in the fertilizer business! Sell new ARCADIAN Fertilizers—sell fast-improving new fertilizer equipment. Tie in with the biggest advertising campaign in fertilizer history, now featuring ARCADIAN products in farm magazines, newspapers and radio broadcasts that blanket your territory.



Rio Grande Area Farm Income Increases Despite Water Shortage

EL PASO, TEXAS—Water shortages, which have become serious along the Rio Grande River, were not as great a handicap in 1954 as first expected. Despite a 17,000 acre reduction in crops, the income was up more than a million dollars. The Rio Grande Project covers about 155,000 acres.

Greater yield per acre made up the difference in production. In cotton, better planting seed, heavier fertilization and stricter insect control boosted yields on most farms.

Last year farmers were allotted only about six inches of water from the river, but supplemented it by irrigation wells. According to W. F. Resch, project manager, the valley's agriculture was saved by the \$10 million well system which has been spreading the last few years. This last year the valley farmers used four times as much water from their wells as they did from the river.

With changing water source, there has also been a changing pattern of crops. Alfalfa plantings were up by 12,000 acres, yet the income dropped about \$20 per acre because of heavy infestations. The yellow clover aphid was particularly destructive.

☐ UREA 45 Fertilizer
45% Nitrogen Pellets

☐ 12-12-12 Fertilizer
Granular

☐ American Nitrate of Soda
Improved Granular

☐ A-N-L® Nitrogen Fertilizer
Pelleted

Nitrogen Solutions

☐ Non-pressure
URAN* and FERAN*

☐ Low-pressure
NITRANA® and URASOL*

*Trade-Mark

NITROGEN DIVISION Allied Chemical & Dye Corporation
40 Rector St., New York 6, N. Y.

Please provide me full information on the products I have checked at the left.


☐ Please have an ARCADIAN salesman call on me.

NAME _____

FIRM _____

ADDRESS _____

CITY _____ STATE _____



Better Selling

Richer Sales Fields for Dealers



FARM SERVICE DATA

Extension Station Reports

Ted Trew, Texas A&M extension pasture specialist, gives several good reasons for fertilizing pastures and hay meadows. These include increasing production, improving and maintaining quality of the forage, and maintaining proper plant mixtures.

Pastures remove plant foods the same as any other crop. Mr. Trew says a ton of grass hay contains the equivalent of 100 lb. ammonium nitrate, 50 lb. 20% superphosphate and 50 lb. muriate of potash.

★

The failure of the cotton plant roots to penetrate deeply enough into the soil was the main reason why many Mississippi Delta cotton farmers failed to get satisfactory yields in 1954, despite using extra high rates of nitrogen and complete fertilizers in some cases, according to T. M. Waller, cotton specialist of the Mississippi Agricultural Extension Service.

"Root penetration is necessary to get subsoil moisture for the development of top crops," he explained. "Hard pan conditions prevent root penetration, moisture absorption, or capillary movement of subsoil moisture during extremely hot, dry periods. The cotton plant fails to get enough moisture, so it sheds all that it cannot support. The resulting loss ranges from three-fourths to a bale and a half per acre."

★

Satisfactory commercial control of corn earworms was obtained in recent tests with three individual ear applications of a DDT-oil and water emulsion, according to Texas A&M College.

A 1% DDT-5% oil and water emulsion gave 70% worm-free ears in studies at the Weslaco and Winter Haven Agricultural Experiment Stations. Small sponges dipped into the solution were pressed against the silk mass of each ear. First application was made when 50 to 70% of the ears were silking.

Good control also was obtained with two treatments of 0.75% DDT-3.5% oil and water emulsion made with a fixed boom tractor-mounted sprayer, and a third application of 1% DDT-5% oil and water emulsion on the individual ears of corn.

★

Entomologists at the Pee Dee, S.C., Agricultural Experiment Station, Florence, have developed effective methods for control of green June beetle larvae in tobacco plant beds.

The entomologists say that, while a dust mixture containing 1% parathion may be used for control, a more effective method consists of using parathion as a drench. When used as a drench, ½ lb. 15% parathion wettable powder should be mixed with 50 gal. water. The mixture may be poured over the uprooted area of a plant bed by using an ordinary sprinkling can. The drench should be used at a rate of 100 gal. for each 100 square yards of uprooted area.

★

Circular 400, Cotton Production, Insect and Disease Control, South Carolina, 1955, is now being distributed by the Clemson Extension Service. The circular was prepared by the

Clemson Extension Cotton Committee.

The circular contains the cotton production and insect and disease control practices recommended for South Carolina. These recommended practices are grouped under seven headings as follows: 1) varieties and planting seed; 2) soils and preparation; 3) fertilization; 4) planting; 5) cultivation; 6) harvesting and gin-

ning; and 7) insect and disease control.

★

Dr. J. O. Rowell, Virginia Polytechnic Institute, has asked farmers and professional agricultural workers to be on the lookout for the alfalfa weevil, a relatively new pest in Virginia. Its present known distribution is still somewhat limited to a small area in northern and north-eastern Virginia. However, the weevil is showing up in additional counties each year. At the present time the following counties are known to be infected: Loudoun, Fairfax, Prince William, Stafford, King George, Westmoreland, Rockingham, Page and Albemarle.

★

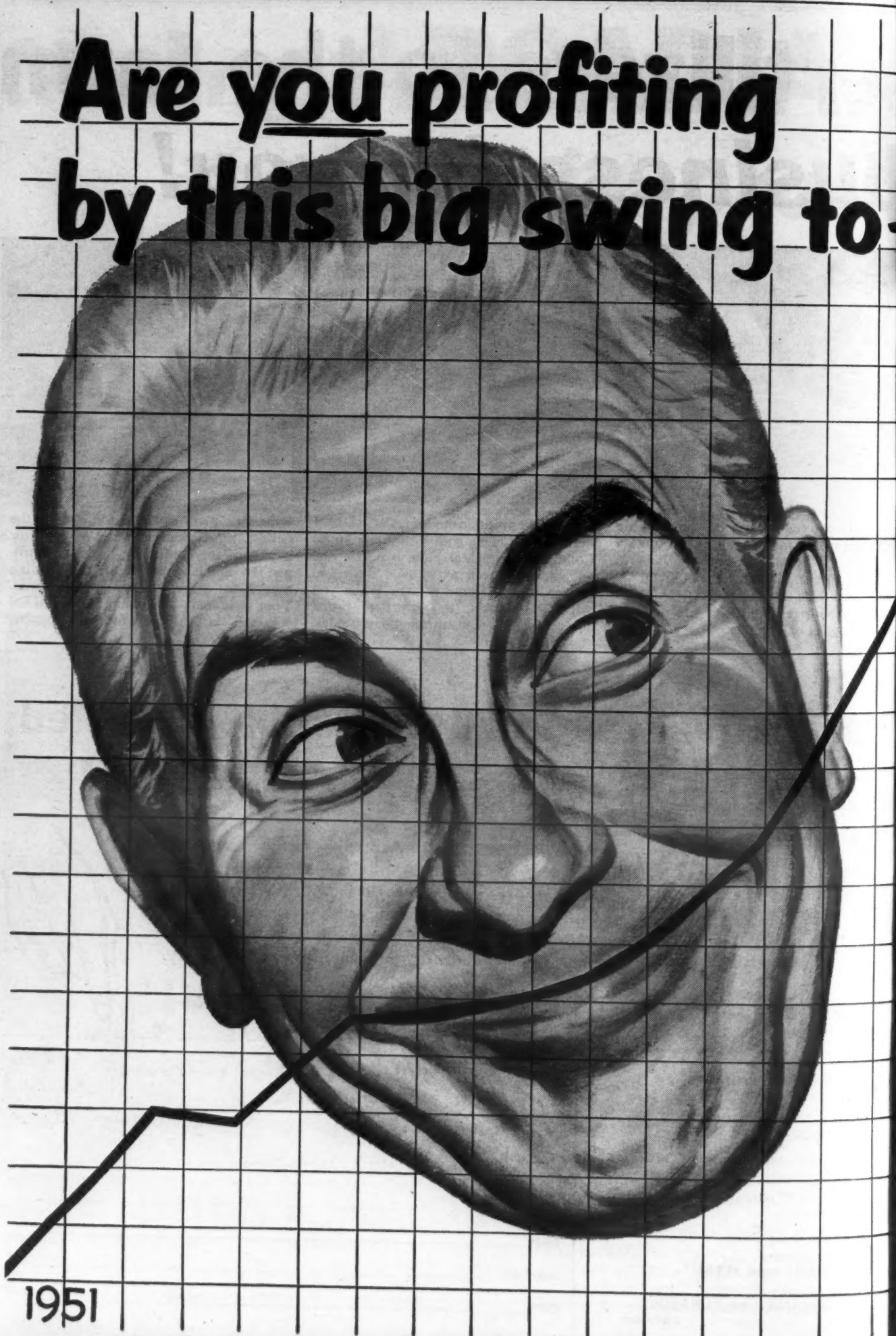
A heavy infestation of armyworms is predicted this year by A.

G. Bennett, Mississippi Extension entomologist. He urges farmers to watch their small grains and pastures closely and have insecticide on hand to deal with the worms when they show up.

★

Practical ways to increase returns from tobacco by battling insects to a standstill are outlined in a new circular of the Extension Service of the University of Kentucky College of Agriculture and Home Economics. Included are the approved ways to dust or spray plants in the bed and in the field, to destroy the common insects that begin their destruction almost as soon as the seed sprouts in the bed. The circular also gives suggestions about ways to discover the pests.

Are you profiting by this big swing to



1951

efficient
clude

CLEMSON,
fertilizers and
ent disease
cluded in
ent State
e program
by the St
tee and t
vice.

In comme
ces, Clem
beral but
mercial pla
carolina far
increase f

H. A. Wo

IN AN AM
ldrin and
a good rea
icides hav
many kind
research ke
all the tim
Aldrin g
ests that i
barley, rye
recognized
copper sto
Dieldrin
or its long
control of
awns, veg

SHE

Atlanta

Better Selling

Richer Sales Fields for Dealers

Efficient Use of Fertilizers, Pesticides Included in South Carolina Farm Program

CLEMSON, S.C.—Efficient use of fertilizers and control of insects and plant diseases are practices that are included in the South Carolina 10-year State Agricultural Program. The program was announced recently by the State Agricultural Committee and the Clemson Extension Service.

In commenting on these practices, Clemson specialists say that the general but efficient use of commercial plant food offers South Carolina farmers their best chance to increase farm profits in 1955.

H. A. Woodle, leader, Clemson

Agronomy Extension Work, points out that when farmers compare prices of commercial fertilizer with the prices paid for labor, seed, equipment and other items, they can easily see that fertilizer is their best bargain.

He says a farmer can expect a return of \$3 to \$18 for every dollar invested in commercial fertilizers. The amount of return will depend not only on the crop concerned but also on how efficiently the fertilizer is used.

It has been conservatively estimated that South Carolina farmers each year lose an average of about

\$75,000,000 because of damage to crops by insects and diseases. In addition to this, animal diseases, rats, weeds, and other pests add greatly to the problem.

Point 6 of the program advises farmers to "use approved methods, equipment, and materials in the control of crops and livestock insects, diseases and parasites, household insects, stored grain insects, rats, weeds, other pests and in soil fumigation."

W. C. Nettles, leader, Clemson Entomology and Plant Disease Extension Work, in commenting on this recommendation says more progress has been made in the use of new materials to control pests in the last 10 years than was made in hundreds of years preceding that time.

Educational Work Ups Sales, Virginia Plant Manager Says

The average Virginia farmer who grows peanuts, cotton, corn or small grains, or a combination of these crops, is using four times as much fertilizer as the farmer of 40 years ago.

So says P. Wilson, secretary-manager of the Dixie Guano Co., which makes and sells fertilizers in a 100 mile area, with a plant located at Suffolk, Va. Mr. Wilson has been with the company all that time, and he knows how farmers have gradually increased fertilizer application per acre.

"I credit better farm knowledge and increasing promotional work for much of this increase," declares Mr. Wilson. "In recent years, too, farmers have paid very close attention to the work of the state agricultural stations, attended many meetings held for farmers on fertilizer and other subjects, and they are making use of what they learn."

"When state experts keep telling farmers that more fertilizer of specific analysis pays, and cites facts of individual cases, then the average farmer sits up and takes notice. Behind this, too, is the good fertilizer educational work done by manufacturers and dealers."

The Dixie Guano Co. sells some of its fertilizer direct, but it also has dealers through an area of a 100 mile radius. For growing peanuts the firm is selling 2-12-12, 0-10-20 and 2-10-12, depending upon soil conditions. Rate of application is 400 lb. per acre. For corn 5-10-10 is used, while cotton growers are calling for 3-9-9 and 5-10-10.

On small grains farmers are using 2-12-12 at the present time in amounts of about 800 lb. to the acre.

"We do notice that farmers are starting to use a higher analysis fertilizer," states Mr. Wilson. "This definitely is a trend which results from farmers studying the fertilizer question seriously, making tests and observing what other growers use for the results they get."

For many years this company has been issuing notebooks to farmers, which Mr. Wilson considers an excellent advertising medium.

Just about every farmer has need for one or more of such notebooks. The trade likes them so well that they come in and ask for more when their supply runs out. Copy on the cover of the notebook says "Grow Better Crops With Dixie Fertilizers . . . for cotton, peanuts, tobacco, wheat and all truck crops. See us when you are in the market for fertilizers and lime. Our motto is 'Quality and Service.'"

Crop Group Gets Advice On Farm Chemicals

AUGUSTA, GA.—L. R. Tucker of Royston, Ga., was elected president of the Georgia Crop Improvement Assn. at the 10th annual convention held here. He succeeds George W. Potts of Newnan, Ga. A. J. Singletary of Blakely, Ga., was named vice president.

During their two day meeting here the seed producers were advised to use agricultural chemicals along with good storage practices to prevent insect damage to corn in storage.

GRAND OPENING

BROADHEAD, WIS.—The Newman Seed & Feed Store here held its grand opening Feb. 25-26.

1955

aldrin

and

dieldrin?

IN AN AMAZINGLY SHORT TIME the sales of aldrin and dieldrin have skyrocketed! There's a good reason! Both of these powerful insecticides have proved to be top controls for many kinds of crop pests . . . and constant research keeps uncovering more and more uses all the time.

Aldrin gives fast, dependable control of pests that infest corn, cotton, peanuts, wheat, barley, rye, oats and tobacco. And aldrin is recognized internationally as the Number 1 copper stopper.

Dieldrin, aldrin's insecticide twin, famous for its long residual action, gives outstanding control of pests that attack cotton, turf and lawns, vegetables, fruits, cereal and forage

crops. And—dieldrin is tops for public health pests, indoors and out.

You'll find both aldrin and dieldrin make up readily as dusts, wettable powders, emulsible concentrates and granules . . . all common formulations.

Shell field representatives are working constantly with growers, county agents, extension entomologists, and state and federal research workers to determine the needs of the growers and what type formulations best apply. Information of this nature is passed along to formulators by Shell representatives. Also, powerful advertising, at the right time, helps you make more sales right in your area.

SHELL CHEMICAL CORPORATION

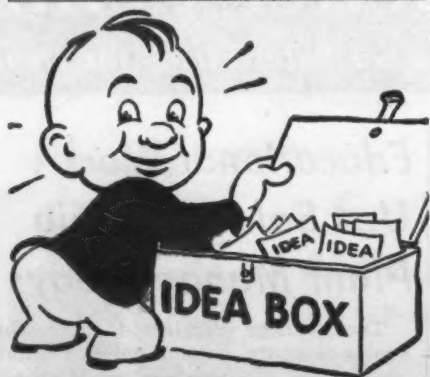
AGRICULTURAL CHEMICALS DIVISION

Chemical Partner of Industry and Agriculture

P. O. Box 1617, Denver 1, Colorado

Atlanta • Houston • New York • San Francisco • St. Louis • Jackson, Miss.





What's New...

In Products, Services, Literature

You will find it simple to obtain additional information about the new products, new services and new literature described in this department. Here's all you have to do: (1) Clip out the entire coupon and return address card in the lower outside corner of this page. (2) Circle the number of the item on which you desire more information. Fill in your name, your company's name and your address. (3) Fold the clip-out over double, with the return address portion on the outside. (4) Fasten the two edges together with a staple, cellophane tape or glue, whichever is handiest. (5) Drop in any mail box. That's all you do. We'll pay the postage. You can, of course, use your own envelope or paste the coupon on the back of a government postcard if you prefer.

No. 6228—Bag Filling Machine

The Kraft Bag Corp. is now marketing an automatic open mouth filling machine that is said to combine high speed and accuracy in operation with low cost of installation and



maintenance. The machine is capable of 22 to 24 one hundred pound charges a minute, with one man hanging bags, using standard size and standard type open mouth bags. The company states that "Because it is pace-setting, the machine requires no head of material to maintain ac-

curacy. It functions like other machines of this type, except that exclusive controls help to maintain unusual accuracy at high speeds. The machine can handle all weights from 25 lb. to 200 lb., with an average variance of not more than 8 oz. plus or minus under ordinary production conditions during a full day's operation." To secure more complete details check No. 6228 on the coupon and mail it.

No. 6229—Fly Killer

A new fly bait that is said to kill up to two million flies per pound is now being marketed nationally by the Pittsburgh Coke & Chemical Co. The new product, called Dipterex-199, is claimed to kill both resistant and non-resistant flies in seconds and provide up to 98% kills within a few hours after a single application. The product is packaged as a dry bait and sold in 1-lb. shaker-type containers and also in 10-lb. pails. It is said to have no odor, won't stain and is free-flowing granular material. One or two applications per week is recommended for full control around the farm and in commercial establishments. The product's active ingredient is Bayer compound L-13/59. The firm reports that at a mid-western university a small amount of Dipterex-199 was placed in a test chamber about the size of a large living room. Two thousand flies were released in the chamber. One hour



later, 94% of the flies were dead, and at the end of eight hours, a 100% kill was recorded, according to the company. Another group of researchers tested the product at a large southwestern farm. Dipterex-199 was applied to surfaces in feed mixing and storage rooms and on feed troughs and pens. The official report of the research team contained the following statement: "The speed and completeness of fly control were sensational." Flies feeding on the bait lost their ability to fly in 60 to 140 seconds. They accumulated in piles up to one-half inch deep in 48 hours. One month after application, flies were still being killed by the original treatment, the firm reports. Dealers are being backed by the most extensive advertising and merchandising program ever initiated by the company for a single product. Large advertisements will be featured in national dairy and poultry magazines and a concentrated schedule of announcements will be carried on farm programs on over a dozen major clear channel radio stations. Television spots will be used in selected areas. At the dealer level, Dipterex-199 will be promoted by silver, red and blue display cartons, and by wall posters, window streamers and direct mail pieces. For more details check No. 6229 on the coupon and drop it in the mail.

tation. It is a non-separating combination of sodium chlorate, borate and CMU—chlorate for deep-rooted weeds with the prolonged soil-surface action of CMU on shallow-rooted grasses and annual seedling growth. The company announcement states "It also has a lasting residual effect to inhibit re-growth. Chlorea is not poisonous and, because of its borate content, does not create a fire hazard when used as directed. It can be applied dry or used as a water-mixable spray." Further information and literature may be obtained by checking No. 6211 on the coupon, clipping and mailing it.

No. 6220—Soil Fumigant

Larvacide Products, Inc., recently announced a new addition to its line of ethylene dibromide soil fumigant sold under the trade name, Nemex. The new addition, Nemex-85, is a formulation of ethylene dibromide containing 83% by weight toxicant. The control of nematodes and certain other soil-borne pests in infested soils with the new product is said to improve root development and vigor, increasing resistance to drought and certain wilt diseases. Good results are claimed on infested soil on such crops as tobacco, cotton, peanuts, vegetables, ornamentals, and even in peach orchards when used as a pre-planting site treatment. For literature check No. 6220 on the coupon and drop it in the mail.

No. 6216—Fertilizer Film

The Spencer Chemical Co. has produced a 16 mm., 27-min. color movie called "George Tackles the Land" and is accepting bookings for future showings without charge. The film stresses fertilizer usage for corn, cotton, citrus groves, celery and pasture. Information about showing the film may be secured by checking No. 6216 on the coupon and mailing it to the newspaper.

No. 6221—Corn Rootworm Folder

Designed to tie in with the current Velsicol Corp. "Kill Corn Rootworms" campaign in the corn producing area of the nation, a new corn rootworm quiz folder for dealers and customers alike has been published. Touching on important phases of corn rootworm control from "What are corn rootworms?" to "What are the essential requirements of a corn rootworm insecticide?", the 19 questions and answers in this quiz show how Heptachlor insecticides are used in the control of this pest. These folders, with space for imprinting name and address, may be secured by checking No. 6221 on the coupon and dropping it in the mail.

No. 6222—Sales Program

The Agricultural Sales Division of Chas. Pfizer & Co., Inc., has available a dealer program for promoting sales of its product, Agri-mycin, an antibiotic spray powder for control of certain plant diseases such as fire blight of apples and pears. The program is outlined in new literature prepared recently and which is now available. A broadside details the program to the dealer and a catalog sheet outlines the product and various program angles, also at the dealer level. Also available is a small folder for consumer distribution and a large booklet which contains abstracts on the use of antibiotics in the treatment of plant diseases. To secure more full details of the program check No. 6222 on the coupon and mail it.

No. 6212—Bag Handling

Arkell & Smiths is offering a 10-page bulletin on "Palletizing Filled

Send me information on the items marked:

- | | |
|--|---|
| <input type="checkbox"/> No. 5119—Slurry Adapter | <input type="checkbox"/> No. 6218—Applicator |
| <input type="checkbox"/> No. 5114—Bagging Scale | <input type="checkbox"/> No. 6219—Catalog |
| <input type="checkbox"/> No. 6205—Bulletin | <input type="checkbox"/> No. 6220—Soil Fumigant |
| <input type="checkbox"/> No. 6206—Gauges | <input type="checkbox"/> No. 6221—Rootworm Folder |
| <input type="checkbox"/> No. 6210—Tank Trailer | <input type="checkbox"/> No. 6222—Sales Program |
| <input type="checkbox"/> No. 6211—Weed, Grass Killer | <input type="checkbox"/> No. 6228—Bag Machine |
| <input type="checkbox"/> No. 6212—Bag Handling | <input type="checkbox"/> No. 6229—Fly Killer |
| <input type="checkbox"/> No. 6216—Fertilizer Film | |

NAME

COMPANY

ADDRESS

CLIP OUT—FOLD OVER ON THIS LINE—FASTEN (STAPLE, TAPE, GLUE)—MAIL

FIRST CLASS
PERMIT No. 2
(Sec. 34.9,
P. L. & R.)
MINNEAPOLIS,
MINN.

BUSINESS REPLY ENVELOPE

No postage stamp necessary if mailed in the United States

POSTAGE WILL BE PAID BY—

Croplife

P. O. Box 67,

Reader Service Dept.

Minneapolis 1, Minn.

Also Available

The following items have appeared in the What's New section of recent issues of Crop-life. They are reprinted here to help keep retail dealers on rotational circulation informed of new industry products, literature and services.

No. 6211—Weed, Grass Killer

A non-selective weed and grass killer has been announced by Chipman Chemical Company, Inc. This new product is called Chlorea and is claimed to kill all types of vege-

Multiwall Bag
ests and field
with detailed
contains usefu
to facilitate
adapting bag
given pallet
may be obtain
in the coupon

No. 6200

Two new g
to the Marsh
line of agricu
nents—one
the other gr
gauges are s
nary division

use on meter
manufacture
lb. for bulk
also two co
150 lb. and
feature now
brator for r
checking No
mailing it.

No. 6210
Trailer

Descriptive
hydrous am
been made
Manufactur
tions listed
1,000-gal., 2
mum tanks
diameter ta
pany spoke
designed to
applicable
tank mount
removal. T
fications of
assembly, t
ling, fender
and dimens
plete inform
6210 on th

No. 5114
Scale

The Rich
product da
GGG-38 bag
cally-operat
equipped w
feeder and
sist, both o
erate faster
and weigh
a detailed
the data sh
specification
cluded also
unit and a
drawing. T
sheet No.
the coupon

No. 5119
Adapte

Panogen,
slurry adap
seed treat
slurry adap
of chan
treating to

rating comb...
e, borate an...
rooted wee...
l-surface a...
hallow-root...
dilling grow...
ment state...
esidual effe...
lorea is no...
of its borat...
a fire hazar...
It can be a...
water-mixe...
ation and li...
l by checkin...
clipping an

No. 6206—Gauges

Two new gauges have been added to the Marsh Instrument Company's line of agricultural ammonia instruments—one graduated 0-60 lb. and the other graduated 0-150 lb. Both gauges are standard with 1 lb. primary divisions and are designed for



ilizer

use on metering devices. Other gauges manufactured are 0-400 lb. and 0-300 lb. for bulk plant installations and also two compound ranges—30 in. x 150 lb. and 30 in. x 300 lb. A new feature now available is the recalibrator for recalibrating a gauge. Secure more complete information by checking No. 6206 on the coupon and mailing it.

No. 6210—Tank Trailer

Descriptive literature on its anhydrous ammonia tank trailer has been made available by the Foreman Manufacturing Co. Tank specifications listed on the literature state: 1,000-gal., 265 PSIG 300° F. maximum tanks—either 41 in. or 46 in. diameter tanks. According to a company spokesman, the tank trailer is designed to insure compliance with applicable ICC regulations, with a tank mounting which facilitates tank removal. The literature lists specifications of the trailer chassis, axle assembly, tires, brake system, coupling, fenders, safety chains, lighting and dimensions. Secure more complete information by checking No. 6210 on the coupon and mailing it.

No. 5114—Bagging Scale

The Richardson Scale Co. offers a product data sheet on its improved GGG-38 bagging scale. This mechanically-operated weighing unit has been equipped with a synchronized belt feeder and a pneumatic inlet-gate assist, both of which enable it to operate faster, handle lumpy materials and weigh down to 25 lb. Besides a detailed description of the scale, the data sheet includes lists of seven specifications and five features. Included also are a photograph of the unit and a dimensioned engineering drawing. To secure product data sheet No. 5401 check No. 5114 on the coupon and mail it.

No. 5119—Slurry Adapter

Panogen, Inc., now is marketing a slurry adapter for use on its present seed treaters. The addition of the slurry adapter presents a quick method of change-over from liquid seed treating to slurry treating and takes

MR. DEALER

Your Customers Need

COTTON POISONS



You Can Sell Them Thompson-Hayward Products With Confidence, Because...

You can be sure that every cotton poison, bearing the Thompson-Hayward label, is field-tested...of proven effectiveness...and is economical to buy and easy to use.

Thompson-Hayward formulates a full line of cotton poisons and control agents.

COTTON DUSTS

20-0—20% Toxaphene

20-40—20% Toxaphene, 40% Sulphur

3-5-40—3% Gamma BHC, 5% DDT, 40% Sulphur (Other formulations available) including Aldrin, Dieldrin, Heptachlor.

COTTON SPRAYS

3-5-0—0.8 Lb. Gamma BHC, 1.34 lbs. DDT per gallon

4-2-0—4 Lbs. Toxaphene, 2 lbs. DDT per gallon

Endrin, Aldrin, Dieldrin, Heptachlor.

Place your order of cotton poisons now! Be ready to meet the demand.



For
Faster
Service
Call...

DALLAS, TEXAS

4900 Singleton Blvd.
Federal 6521

HOUSTON, TEXAS

2600 Crockett
Charter 2668

N. LITTLE ROCK, ARK.

123 So. Main
5-6446

LUBBOCK, TEXAS

P. O. Box 413
5-5998

NEW ORLEANS, LA.

3111 Lowerline
University 8686

SAN ANTONIO, TEXAS

Grayson St. Station
Fannin 7377

ST. LOUIS, MO.

5 Carr Street
Chestnut 2170

MEMPHIS, TENN.

493 N. Front St.
5-7561

OKLAHOMA CITY, OKLA.

828 N. W. 2nd St.
Forest 5-6383

TULSA, OKLA.

36 North Guthrie
54-6189

**Our Local Staff
Can Help You and
Your Customers**

We maintain sales offices and warehouses of our own in 18 different cities. The Thompson-Hayward headquarters nearest you is staffed with men who know your particular local conditions and what products will serve your customers best. Don't hesitate to call the nearest Thompson-Hayward offices at any time for advice on any agricultural chemical problem.

THOMPSON-HAYWARD

CHEMICAL COMPANY



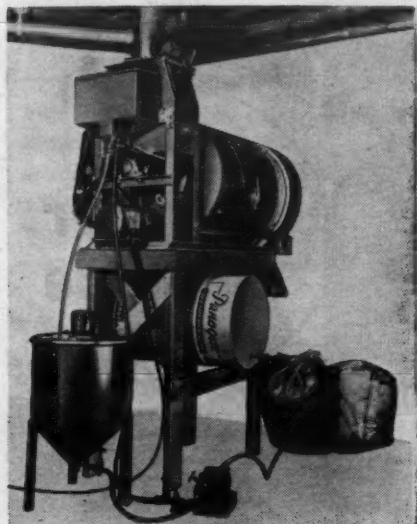
KANSAS CITY, MISSOURI

18 SALES OFFICES and WAREHOUSES
OF OUR OWN



TO GIVE YOU COMPLETE, FAST SERVICE

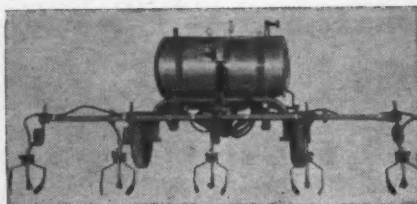
in a greater range of seed treating, it is claimed. A completely automatic unit, it incorporates an overflow feature for uniform suspension of the chemical in the slurry mixture. The company announcement states: "This feature, along with an accurate measuring device, delivers the slurry, properly mixed at the exact dosage rate, to the seed—insuring most effective seed treating. The slurry tank pumps dry to avoid waste. The treat-



er is self-cleaning, permitting quick change-over to liquid seed treating." To secure more complete information check No. 5119 on the coupon and drop it in the mail.

No. 6218—Applicator

A new PTO operated liquid nitrogen applicator for applying pressure or non-pressure solutions is being manufactured by Spra-White Chemical Co., Inc. It can also be used for insecticides and herbicides, as it is available with boom or boomless nozzles for broadcast application, company spokesmen said. From 10-200 lb. of nitrogen per acre may be ap-



plied and up to 80 acres may be covered in a day, used before planting or while side-dressing, it is claimed. Application depths up to 6 in. and positive mounding of earth over the nitrogen are specified. The 200-gal. tank is equipped with calibrated sight glass and 30 lb. psi working pressure is possible. To secure more complete details check No. 6218 on the coupon and drop it in the mail.

No. 6219—Equipment Catalog

The Gotcher Engineering & Manufacturing Co. has available for free distribution its 1955 anhydrous ammonia equipment catalog. The company's line includes field applying equipment including tractor mounted, semi-mounted and pull-type ammonia applicators. To secure the catalog, check No. 6219 on the coupon and mail it.

No. 6205—Bulletin

Harnischfeger Corp. recently issued its revised grab bucket crane bulletin. Several of its 24 pages are devoted to suggestions on selecting the proper type of grab bucket crane for a specific service. Features of the unit with large pictures and text, are included as are clearance dimensions. The bulletin is departmentalized to show grab bucket cranes in various services, with a spread of pictures showing modern fertilizer plants. The bulletin may be obtained by checking No. 6205 on the coupon, clipping and mailing to the address provided.

Insure against wireworms for only 16c per acre

ISOTOX 25 Seed Treater F controls wireworms, seed corn maggots, and other soil insects—also gives added disease protection at planting time

It's the most effective and economical seed treatment you can buy! For only about 16¢ per acre ISOTOX 25 Seed Treater F gives you *dollars upon dollars* of crop protection from wireworms, seed corn maggots. Also gives added disease protection to seeds previously treated with fungicide.

Over 5,000,000 acres have been treated with ISOTOX Seed Treater during the past five years, proving to thousands of farmers that ISOTOX brings top germination... insures bigger yields, healthier stands... saves "extra" seed costs... saves time and labor of replanting due to insect damage. Last planting season, more than 20,000 new farmer users specified ISOTOX 25 Seed Treater F.

For low-cost "life insurance" for your crops—insist on ISOTOX—the pioneer seed treater—designed exclusively for seed treatment. Recommended for corn, soybeans, beans, cotton and many other crops.



CALIFORNIA SPRAY-CHEMICAL CORP.
(Offices throughout U.S.A.)

T.M.'S REG. U.S. PAT. OFF.: ORTHO, ISOTOX

What's Been Happening?

This column, a review of news reported in Croplife in recent weeks, is designed to keep retail dealers on rotational circulation up to date on industry happenings.

The first annual meeting of the National Nitrogen Solutions Dealers Assn. was held in Omaha March 14-15. Wayne Johnson, Shenandoah, Iowa, was named president. . . . Phillips Chemical Co. acquired quarter interest Farmers Corporation, a new firm established March 12 by the National Farmers Union and Kee-McGee Oil Industries.

Chas. Pfizer & Co. announced large-scale commercial production of itaconic acid on March 15. The material may have an application as base for insecticidal products, as a "building block" in the process. . . . Mackwin Co., Winona, Minn., developed a method of mixing pesticides with fertilizer in which the insecticide is sprayed onto fertilizer as the latter passes along a conveyor belt.

Cotton meeting at Phoenix, Ariz., March 8-9 brought out fact that system insecticides show "great promise" in pest control in cotton, but much more research is needed before full use comes. . . . U.S. Department of Agriculture pointed out that cost of fertilizer materials has increased less than any other commodity the farmer buys. Hired labor was listed as having increased over 300%, while fertilizer has gone up only 52%, compared to cost of 1935-36.

Speakers at the Spring Meeting of the National Agricultural Chemical Assn. in St. Louis called for an extensive educational job, directed at the public, dealers, distributors and the basic pesticide industry itself. . . . U.S. Department of Agriculture surveys indicated that chinch bug infestation in 1954 would be local, ranging from non-economic to threatening.

Pesticide industry leaders, in answer to a Croplife survey, said that an improved balance between supply and demand of materials appeared likely for 1955. . . . Freeport Sulphur Co. and Pittsburgh Consolidation Co. announced plans to form a new firm, National Potash Co.

Commercial Solvents Corp. announced that it will participate in Canadian chemical project, Northwest Nitro-Chemicals, Ltd., which will manufacture and market nitrogen and phosphate fertilizers. . . . Standard Oil Company of California announced a chemical manufacturing expansion expected to cost \$16 million. It will include a new ammonia and nitric acid plant.

A new firm, Diamond Black Leaf Co., was announced Feb. 24. Diamond Alkali Co., Cleveland, will acquire Virginia-Carolina Chemical Company interest in the new firm during the next five years, according to the agreement. The new firm will be managed by Diamond Alkali, Loren P. Scoville and Dr. Bruce G. Gleissner will serve as general manager and assistant general manager, respectively, in the new firm.

A new attendance record of over 500 was noted at the Feb. 17-18 meeting of the Middle West Soil Improvement Committee in Chicago. Speakers represented colleges and universities in the 13 states involved, and included industry representatives.

The U.S. Commerce Department predicted record sales of chemical and allied products in 1955, with gains seen in the use of fertilizers and pesticides.

Construction started on an ammonium nitrate plant to be operated by Brea Chemicals, Inc., Los Angeles. . . . International Minerals & Chemical Corp. announced that it is expanding its potassium sulfate producing facilities at Carlsbad, N.M. . . . Stauffer Chemical Co. completed a new insecticide and fungicide blending plant at Lubbock, Texas.

Procedural regulations for the establishment of safe tolerances for pesticide chemicals used on food crops are to go into effect March 6, the U.S. Department of Health, Education and Welfare announced Feb. 9.

Robert Campbell, acting president of the new St. Paul Ammonia Products Co., announced that the firm would erect a \$15 million anhydrous ammonia plant near St. Paul.

Fertilizer mixers, replying to a Croplife survey on the 1955 business outlook, said a balance of supply and demand appears likely this year. The fertilizer program was reported to be making headway in some areas.

The 1955 corn allotment was set at 49,842,697 acres, an increase of 8% over that of last year. . . . Organization of Calumet Nitrogen Products Co., a new firm that will build an ammonia plant at Hammond, Ind., was announced by Standard Oil Co. (Indiana) and Sinclair Refining Co.

Sales of East German potash below domestic prices threaten to produce a loss of at least \$2.5 million to the U.S. potash industry, it was stated at a U.S. Tariff Commission hearing on the imports. . . . The U.S. Department of Agriculture reported that a serious corn borer infestation is likely this year in the Midwest if weather conditions are favorable for the insect development.

International Minerals & Chemical Corp., Chicago, announced plans for a more than \$1 million expansion program for its potash plant at Carlsbad, N.M.

Regulations governing certification by the U.S. Department of Agriculture of the usefulness of pesticide chemicals as authorized under the Miller Bill were issued by USDA.

Numerous state meetings were held. Cotton States Branch of Entomological Society of America met at Tampa, Fla. and elected H. C. Young as chairman. . . . The Southern Weed Conference met Jan. 17-19 at St. Petersburg, Fla. with 300 in attendance. G. C. Klingman, N. Carolina State College, Raleigh, was named president of the Conference.

Colorado Fertilizer Conference was held on the campus of Colorado A & M at Ft. Collins. That fertilizer can largely compensate for lack of moisture in dry years, was emphasized by speakers. . . . Mississippi Insect Conference at State College was held early in January featured well-known speakers.

PRICE SUPPORTS

(Continued from page 1)

First Ezra Taft Benson, secretary of agriculture, announced the House bill as a step backward and unlikely to be enacted into law. In fact, there is much uncertainty that it can gain much approval, although at the present time the Farm Bloc seems to have welded a temporary liaison between the high price support bloc and the urban congressman, allegedly representing labor.

The claim this combination is now making is that the flexible support program is steadily lowering farm income and that ultimately this condition is going to be reflected in reduced farm purchases of industrial goods and supplies. Walter Reuther, UAW leader, appeared before the House committee and urged it to adopt a rigid high price support level to prop up farm income.

Shortly after the Benson statement of opposition, the White House announced that it was likely that the chief executive himself would intervene in any congressional drive to repeal the flexible support aspects of the present farm law.

In the Senate there is no indication of any intention to take up broad farm legislation at this session of the 84th Congress, so that even favorable House action this year would not change the outlook for 1956 crops. Consequently, the House committee action is best characterized as political hoop-la.

Nevertheless the critical farm problem is snow-balling at an increasing tempo. It is a condition which should alert the plant food industry to a deep examination of what may be ahead.

Sec. Benson gave a moderate view of the years ahead for wheat at a recent press conference. On the basis of the current pile up of surpluses of that commodity, plus the maximum acreage restrictions and minimum support levels for that crop, it will take a decade before the wheat surplus can be worked down to a point where "normal" relationship can be established between supply and demand as defined in the current farm law. That could mean a long sentence for the wheat producer to operate under tight government restrictions.

A not less palatable condition faces the cotton grower where surpluses have piled up.

Administration opposition — the high price support contingent which demanding a return to rigid high support levels — proclaim that the Benson operated USDA is lowering farm income through the flexible support program. Yet at the same time they ask for high support plus heavy acreage allotments restrictions which they have themselves advocated.

In many segments of the high support Farm Bloc there is a growing cognition that retention of high support may drop acreage of wheat and cotton and other farm crops down to substantially lower levels than those now being imposed.

The "eat your cake and have it too" high support folks in Congress are facing a most embarrassing situation. They are seeking escape by forced exports through a price war dumping of our existing surpluses, a procedure which thus far does not seem to be effective under the liberal provisions of the Surplus Disposal Act of 1954.

Deeply serious men in Congress and at USDA now are eyeing uneasily the mounting crisis in the farm program, spear-headed by the immediate problems facing the wheat and cotton crops.

Current statutory restrictions on wheat acreage are seen as far short

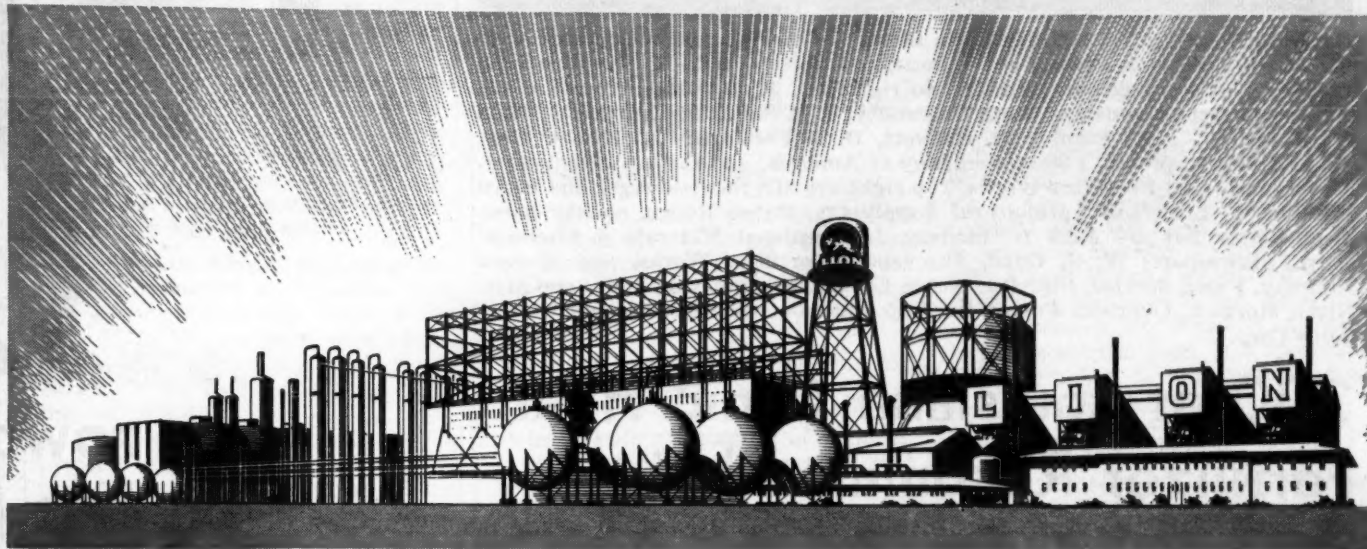
of those needed to bring supply and demand into balance and restore a free economy for the wheat farmer. The cotton farmer faces an increasing acreage restriction on that crop if it, too, is to be brought into a supply-demand balance.

Unless cross-acreage allotments are imposed to prevent other crops from being cultivated in wheat and cotton acreage the surplus supply condition may be aggravated by surpluses in oats, barley, grain sorghums and even corn. Soybeans may be moving into a surplus condition this next crop year.

There is a growing feeling that wheat farmers this year may repudiate acreage allotments and marketing quotas which would lower the support level for that crop to 50% of parity in 1956.



CONSERVATION AWARD COMMITTEE — The Awards Committee of the American Forestry Assn. is now receiving nominations for the annual conservation awards. Members of the committee, from left to right, are: Lowell Besley, executive director, AFA; Rep. Watkins M. Abbitt, (D., Va.); Dr. M. D. Mobley, executive secretary, American Vocational Assn., Inc.; Robert N. Hoskins, chairman, Industrial Forester, Seaboard Air Line Railroad; Bryce C. Browning, secretary-treasurer, Muskingum Watershed Conservancy District; Arthur R. Spillers, chief, division of Cooperative Forest Management, U.S. Forest Service, and Louis H. Wilson, secretary and director of information, American Plant Food Council. The five awards presented by the Committee each year are given in the fields of public information, business and industry, public servants, education and general service.



How LION Helps YOU Sell NITROGEN FERTILIZERS

- ✓ Two Giant Chemical Plants Assure the Supply
- ✓ Advertising Helps Create the Demand

As a retailer, you'll find it to your advantage to sell Lion nitrogen fertilizers, because Lion's manufacturing capacity and storage facilities assure a ready supply of top-quality materials, and Lion's consistent advertising pre-sells the Lion brand.

Capacity? Lion's two giant chemical plants are now in production, making Lion a leader in manufacturing the most popular and economical types of nitrogen fertilizers not only in the South but nation-wide.

Delivery? Lion has constructed huge storage facilities to accumulate enormous stocks of the various nitrogen fertilizer materials. Even when demand is intense, you can get Lion nitrogen products.

Pre-selling? Lion's continuous advertising does an effective pre-selling job for you with your farmer customers. See list below.

Feature and sell nitrogen fertilizers with the Lion emblem on the bag, or Lion's anhydrous ammonia. You'll make sales easier, which means more profit for you.

Look To LION—A Leader In Petro-Chemicals—For Nitrogen Fertilizers

Lion Anhydrous Ammonia • Lion Ammonium Nitrate Fertilizer
Lion Aqua Ammonia • Lion Nitrogen Fertilizer Solutions
Lion Sulphate of Ammonia

**LION FERTILIZER ADVERTISING
REGULARLY APPEARS IN:**

- Farm & Ranch—Southern Agriculturist
- Prairie Farmer
- Progressive Farmer
- Wallace's Farmer & Iowa Homestead
- Leading State Farm Publications

DISTRICT SALES OFFICES:

NATIONAL BANK OF COMMERCE BLDG., NEW ORLEANS, LOUISIANA
SHEPHERD BUILDING, MONTGOMERY, ALABAMA

LION OIL
CHEMICAL SALES DIVISION



COMPANY
EL DORADO, ARKANSAS



AT LOUISIANA MEETING—Shown above are scenes from the recent meeting of the Louisiana Plant Food Educational Society, held in Shreveport. In the photo at top left are, from left to right, Dr. M. B. Sturgis, head of the Agronomy Dept., Louisiana State University; J. B. Snell, Minden (La.) Cotton Oil & Ice Co., Ltd.; Stanley M. Hackett, Dixie Fertilizer Co., Bossier City, La.; Sheldon Appleton, Potash Company of America, and C. D. Shallenberger, Shreveport (La.) Fertilizer Works. Top right are Mr. Shallenberger and Floyd Williamson, Louisiana Agricultural Supply Co., Baton Rouge, society president. Lower left are Jack K. Lindsey, International Minerals & Chemical Corp., Shreveport; W. G. Oden, Shreveport Fertilizer Works, and Warner Anthony, Farm Service, Inc., Opelousas, La. Lower right shows Mr. and Mrs. Niven Morgan, American Potash Institute, and Joe Marsalis, Chilean Nitrate Sales Corp.

200 at Louisiana Clinic Hear Fertilizer Recommendations

SHREVEPORT, LA.—Approximately 200 persons interested in improved fertilizer practices attended a fertilizer clinic sponsored by the Louisiana Plant Food Educational Society in cooperation with the Louisiana State University College of Agriculture here recently. The meeting was represented by farmers, fertilizer dealers, fertilizer manufacturers and several service institutions.

The meeting was opened by J. L. Lee, district agent, LSU Extension Service. J. Y. Oakes, superintendent, Red River Experiment Station, presented the current cotton fertilizer recommendations for alluvial soils, and Joe Sedberry from the North Louisiana Hill Station gave the cotton fertilizer recommendations for upland soils. It was pointed out that at the North Louisiana Hill Farm, Homer, La., magnesium fertilization increased the yields of cotton on all plots receiving equal nitrogen, phosphorous and potassium treatments.

John A. Hendrix, superintendent, Northeast Louisiana Experiment Station, talked on corn fertilization for alluvial soils and J. G. Marshall, LSU, discussed fertilizer recommendations for upland soils.

Mr. Marshall said that Louisiana farmers planted 590,000 acres of corn in 1953 which represented 14% of the total crop acreage of the state, and that the average yield for corn in Louisiana is now only 22 bu. per acre.

He said the Experiment Station recommends for corn on soils of the coastal plains, Mississippi terraces and loessial hills the use of 400 lb. per acre of 8-8-8, 6-8-8, 5-10-10, or 6-12-6 or their equivalents in higher grades before or at planting and side dressing with 50 to 80 lb. nitrogen.

Dr. Gerald E. Wilcox discussed the time and rate of fertilizers on grass pastures and W. E. Monroe pointed out how soil fertility affected pasture renovation. He said that the Experiment Station recommended for upland pasture soils 30 to 40 lb. elemental nitrogen, 60 to 72 lb. elemental phosphorous and 60 to 72 lb. elemental potassium per acre which

would be equivalent to 600 lb. 5-10-10 per acre.

It was shown that money invested properly in fertilizers returned \$5 to \$12 for every dollar invested. Mr. Monroe pointed out the trend to higher analysis goods and said that Louisiana was only using one-half of the fertilizer it could use.

W. H. Patrick, LSU, talked on subsoiling and deep application of fertilizer. Dr. W. J. Peevy, LSU, advised the group on the relation of lime to the soil fertility program. It was mentioned that soils with a pH of about 5.4 have given increases of 200 to 400 lb. of seed cotton and about seven bu. corn per acre where sufficient lime was added to raise the pH to 6.5.

Dr. M. B. Sturgis, head of the agronomy dept. at LSU, commented on the soil fertility program, and T. H. Milliken pointed out the returns farmers are getting from using fertilizers.

C. D. Shallenberger, Shreveport Fertilizer Works, served as a moderator of a panel discussion on how the fertilizer manufacturers view the present trend in fertilizer recommendations and practices. J. B. Snell, Minden (La.) Cotton Oil & Ice Company, Ltd.; Stanley M. Hackett, Dixie Fertilizer Co., Bossier City, La., and Frank Boyd, Virginia-Carolina Chemical Corp., served on the panel.

A progress report of the Louisiana Plant Educational Society was given by Mr. Snell, director of the organization, followed by comments from Floyd Williamson, Louisiana Agricultural Supply Co., Baton Rouge, La., society president.

SAWFLY THREAT

WINNIPEG — Saskatchewan provincial government officials are warning farmers that sawflies are a potential threat in the western part of that province this year. Surveys indicate large numbers of sawfly grubs wintering over throughout most of the southern half of western Saskatchewan. Moderate infestations are expected east to Regina and south to the international boundary.



with POWCO BRAND

ALDRIN

CONTROL SOIL PESTS... INCREASE YIELDS

Powco Brand 20% Aldrin Granular Concentrate and 2 lb. Aldrin Emulsion Concentrate:

1. Protect germination. 2. Are safe on seed and plants. 3. Provide early stands. 4. Reduce harvesting costs. 5. Provide better quality crops. 6. Are not absorbed by or translocated in plants. 7. Give no off-flavor. 8. Are chemically stable.



JOHN POWELL & COMPANY

Div. of Olin Mathieson Chemical Corp.
One Park Ave., New York 16, N. Y.
Chicago, Atlanta, Fort Worth, Omaha, Denver,
Pittsburgh, Philadelphia, Huntsville, Ala.

LOOK TO POWELL... FOR CONSISTENT TROUBLE-FREE QUALITY

SOILS and FERTILIZERS

Fourth Edition

By **FIRMAN E. BEAR**, Research Specialist, New Jersey Agricultural Experiment Station.



1953. 420 Pages \$6.00

Covers in detail: soil chemicals... important soil elements such as nitrogen, phosphorus, calcium... yield prospects of crop plants... moisture control... soil management... mechanical operations... soil conservation... organic matter maintenance.

For Sale By

CROPLIFE

P.O. Box 67, Minneapolis 1, Minn.



WORLD REPORT

Industry News from Everywhere

By GEORGE E. SWARBRECK
Croplife Canadian and Overseas Editor

Agricultural men in Canada and in a number of overseas countries report that much interest is being shown in the development of antibiotic products and the possibilities of their use in combating bacterial diseases in crops.

Example in a Canadian report is the experimental use of streptomycin on fire blight found in apples and pears. Application in spray form is reported to have reduced the incidence of the disease. Thus growers have been saved hours of careful pruning in order to remove cankers. More important is the saving of valuable trees for the disease spreads so rapidly that hitherto heavy losses have been inevitable.

Much remains to be learned about the desirable dosage rate, time of application, number of applications and the effect of environmental conditions. The experiments so far show that the effective dosage rate varies from 50 to 100 parts in a million, the time of application from early bloom to early cover sprays, and the number of applications from two to seven.

Environmental conditions, such as temperature, rainfall, age of trees and vigor of growth, and the danger from fire blight in the area generally, must be considered in determining how the antibiotic can be used to the best advantage.

Holland-America Project

A four man "design aid team" from the Diamond Alkali Company of Cleveland, Ohio, is now in Holland working with Dutch engineers to complete equipment and process design for a new soda ash plant, scheduled to go on stream in the summer of 1957.

The new plant, the first of its kind in Holland, stems from the program of industrialization evolved by the Netherlands government to meet the demands of a predominately agricultural economy. The cost has been assessed at equivalent to \$12.7 million and the plant will have a daily productive capacity of 480 tons soda ash.

The project is based on a large salt deposit, estimated at 20 billion tons, and discovered shortly after World War II in the northern part of the province of Groningen. The plant will be located at Delfzijl, 20 miles from the deposits.

The organizations engaged in the project are the Royal Netherlands Salt Industry, the State Coal Mines, Mekog Cokeovens Exploitation Co., and the Royal Netherlands Sulfuric Acid Factories.

Dutch engineers worked for three

months at the Diamond Company's research center at Painesville exploring various phases of the project. Diamond engineers have now gone to Holland to assist with the preliminary work.

Hungary Plant

A new ammonia synthesis plant is reported to be undergoing tests at the Borsod Chemical Works located at Kazincbarcika in northern Hungary.

Shortage of Engineers

An acute shortage of engineers for both industrial and agricultural chemical plants is reported from Europe. More than 300 delegates from 15 British Empire and European countries are meeting in London to discuss educational programs for chemical engineers and to detail the further tasks that must be done to solve the problems currently facing the industry.

The discussions will emphasize the need for more chemical engineers and it is expected that a recommendation will be made calling for improved training and research facilities.

The delegates will visit a number of chemical plants in the U.K.

Stored Grain Pests

British sources report that trials carried out during the past year have proven that satisfactory control of grain weevil and saw-toothed grain beetle is provided by the use of dieldrin.

Control was effected by creating a barrier between the walls of silos and bins and their contents by applying a residual coating of dieldrin. Insects emerging from cracks and crevices in the walls had to pass through the barrier and were destroyed before they could cause damage.

Before applying the coating, the

report warns, it is essential to remove any dust, cobwebs or dirt from the walls as this prevents the chemical from reaching the true surface of the walls.

Indian Plans

The government of India is reported to have given approval to the proposal for the establishment of four more fertilizer plants within the next seven years.

An advisory development council recently recommended sites for the factories and listed the types of fertilizers to be produced. The country's fertilizer requirement is expected to increase to 150,000 tons a year in 1956-57, to 240,000 tons in 1958-59, and to 370,000 tons in 1960-61. Production is currently set at 110,000 tons.

One factory, it is reported, will be located in the Punjab in order to use some of the surplus energy from the newly completed Bhakra-Nangal hydro-electric scheme.

Western Group Plans Spring Meeting

LOS ANGELES—The spring meeting of Western Agricultural Chemicals Assn. will be held in the Clark Hotel, Los Angeles, June 21, 1955, to coincide with the meeting of the Entomological Society of America, Pacific Slope Ranch, which will start June 22 in the Mission Inn, Riverside.

Membership of Western Agricultural Chemicals Assn. has increased 40% since Jan. 1, 1953, according to C. O. Barnard, secretary.

HEADS LIMESTONE GROUP

DES MOINES—Wood W. Weaver, Iowa Falls, was named president of the Iowa Agricultural Limestone Assn. at the group's annual meeting here recently.

Mineralized FERTILIZERS

THE *Easy Way* TO HAVE A COMPLETE PLANT FOOD



With Tennessee Custom Formulated Mineral Mixtures — It's easy to have a completely mineralized fertilizer. We custom mix any combination of minerals to your own specifications — There is only one ingredient to add to your regular fertilizer for a completely balanced plant food — No additional labor or mixing facilities are required since Tennessee Custom Formulated Mineral Mixtures come to your plant — in bulk or bag — already carefully mixed in controlled amounts of soluble, readily available forms of Copper, Manganese, Iron, Zinc, Magnesium and Boron. With a Tennessee Custom Formulated Mineral Mixture — you cut down on raw material cost, number of items purchased and handling time.

Samples, specifications and detailed information available upon request.

TENNESSEE  CORPORATION

617-629 Grant Building, Atlanta, Georgia



PART OF \$2 3/4 MILLION SYSTEM

Shell Chemical Corp. Dedicates Anhydrous Ammonia Terminal

PASCO, WASH.—Shell Chemical Corp. opened its northernmost anhydrous ammonia storage depot, the end of a \$2,750,000 distribution system, here recently with E. L. Peterson, assistant secretary of agriculture as principal speaker and more than 3,000 NH₃ dealers, farmers and Columbia Basin dignitaries as guests.

The new storage plant, located on the Snake river in the backwaters of McNary dam, makes it possible to store as much NH₃ as the output of two 150-ton a day manufacturing plants, G. R. Monkhouse, Shell vice president, told a press conference.

The new facilities are owned and operated by Tidewater Terminal Co., a subsidiary of Tidewater-Shaver Barge Lines which operates water transportation facilities on the Columbia and Snake rivers above Portland.

The Pasco terminal is at the end of a 900-mile water supply route from Shell's California plant at Pittsburg. A specially built sea-going pressure barge, the Ammonia Mariner, hauls the NH₃ from California to Portland. At Portland it is transferred to a river barge for shipment to Pasco from where it is distributed throughout Washington, Idaho and northern Oregon by rail.

Since the water shipment system went into operation in January Shell has been able to reduce its price \$40 a ton—a saving to Northwest farmers of \$2,000,000 a year, Mr. Monkhouse said. NH₃ is used principally on wheat in the Northwest area although V. C. Irvine, San Francisco, Shell sales manager, said the fertilizer is being distributed to irrigation areas in Idaho, Oregon and Washington for use on other crops.

Shell anhydrous ammonia is distributed in eastern Washington by Northwest Chemicals, Inc. (Norkem), headed by C. E. Paulson, Yakima,

and in Oregon and southeastern Washington by Farm Chemicals Co., Athena, Ore. There are six dealers in southern Idaho, four in Oregon, and 28 in Washington.

Mr. Paulson, reviewing criticism leveled at Northwest wheat growers for "forcing their yields upward" by the use of NH₃ and other nitrogen fertilizers, pointed out that at one time Northwest soils had an extremely high concentration of nitrogen which helped make Washington apples, Northwest wheat and Idaho potatoes by-words of good eating throughout the nation.

"With each crop, tons of nitrogen were drawn from the soil and over the years the soil's nitrogen content dropped seriously. Yields per acre began to decrease and farmers were faced with the problem of replenishing their land's nitrogen supply," Mr. Paulson said.

"So we aren't helping create a greater grain surplus; we are improving the quality of the wheat and revitalizing the land," he said.

Mr. Monkhouse pointed out that Shell now has storage facilities for a total of 9,900 tons of ammonia in the Pittsburg-Pasco supply line, exclusive of whatever is aboard barges at a given time.

Shell Point (Pittsburg) has a storage sphere with an 1,800-ton capacity. Willbridge terminal, Portland, has a 2,700-ton sphere, and Pasco has two 2,700-ton spheres.

The Ammonia Mariner is 252 ft. in length and has nine pressurized tanks (two above deck and seven below) capable of carrying 1,700 tons. Total liquid ammonia storage capacity of the terminals in the Northwest, Mr. Monkhouse said, is larger than storage capacity for most ammonia producing plants.

"The entire system is designed to

handle upwards of 50,000 tons of ammonia a year," he said.

Plans of the company also include supplying industrial ammonia from the Portland and Pasco terminals to the pulp industry of Oregon and Washington and to the explosives industry.

Speakers at the opening included Pasco, Walla Walla and Portland civic officials; H. G. West, vice president of the Inland Empire Waterways Assn., who hailed the terminal as the first of many industrial plants on Inland Empire waterways, and Mr. Peterson. They were introduced by David H. Walbolt, Pasco, Shell district manager.

Mr. Peterson told the crowd that Shell's work in developing equipment for NH₃ use on farms was an example of the kind of research needed in agriculture.

He said research and education must be increased in the agricultural field in order to keep production up with the nation's growing population. He said also that at the present time wheat was the nation's "number 1 problem commodity" but felt a solution would be reached in solving the surplus problem.

Food Processors Hear Reports on New Insecticides

DAVIS, CAL.—New insecticides, weed killers and fungicides to protect California's food crops were reviewed for members of the food processing industry meeting at the University of California on the agricultural college campus at Davis recently.

DDT-resistant codling moths have been found in apple and peach orchards in the eastern part of the U.S. and in the Pacific Northwest, Harold F. Madsen, lecturer in entomology on the University's Berkeley campus, told some 250 delegates attending the conference. Some reports have been made of DDT resistance in this pest in California, but none has been proven, Mr. Madsen said. Further tests are being planned for the coming season, he promised.

If DDT resistance shows up, Mr. Madsen said, California growers will be able to use some of the newer chemicals against the pest.

Extension weed specialist, William A. Harvey, mentioned dalapon and amino triazole for use against some grasses as among the new weed killers soon to be available to growers.

Controlling brown rot of peaches and fire blight in pears was also covered at the conference, the first ever held in California, and aimed at solving the problems of processors' fieldmen who requested the conference.

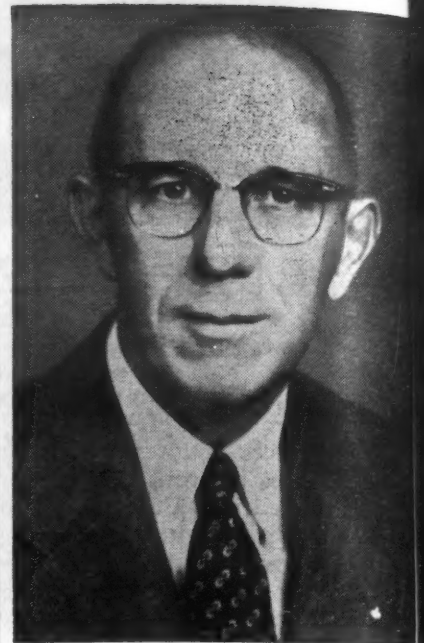
Representatives of the state and federal governments, the canning industry, and the University held a panel discussion on the Miller Act, which sets insecticide residue tolerances on food crops.

"With the new tolerances on some 25 chemicals, canners and processors will rely on their fieldmen to check on growers' compliance with the act," said B. G. Grossi of Gerber Products Co. "Fieldmen will have to know what growers used and when before the crops are bought for processing."

The food processing industry will expect growers to look to the recommendations of their farm advisors in using insecticides, he said.

Willard F. Williams, agricultural economist for the Federal Reserve Bank of San Francisco, discussed sources of agricultural credit and types of loans available for agricultural purposes.

J. Earl Coke, director of the Agricultural Extension Service of the University was the principal banquet speaker.



C. B. Stephenson

C. B. Stephenson Heads Fertilizer Department At Dannen Mills

ST. JOSEPH, MO.—C. B. Stephenson has been named manager of a new fertilizer department which is being established by Dannen Mills.

Mr. Stephenson, who has been connected with the San Francisco Chemical Co. and the Thurston Chemical Co., Joplin, Mo., is a graduate of the University of Missouri. He is a member of the American Society of Agronomists and has worked as a soil research expert for the Missouri Extension Service.

The new manager will supervise jobbing to dealers in the Great Plains states and will handle the sale of fertilizer ingredients to mixers. He will be in charge of the distribution of fertilizer of special types, such as those designed for lawn or garden use.

Fertilizer sales of the company were formerly handled by Dannen Mills grain and jobbing division.

SHADE TREE

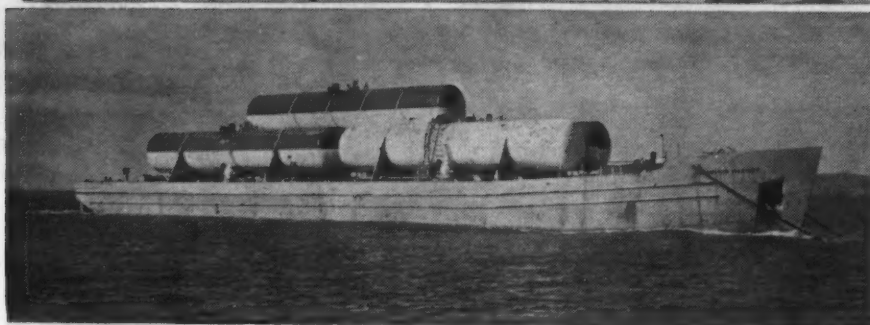
(Continued from page 8)

venting the feeding of the leafhopper that carries it," Dr. Bretz warned, "and this can be done only if properly formulated DDT sprays are thoroughly applied at the right time of the year."

He advised two foliage applications, the first when the leaves reach full growth in early summer, and the second about 4 to 6 weeks later when the usual mid-summer growth of new foliage develops.

Describing oak wilt as "a virulent disease capable of much damage where oaks are abundant," Dr. Bretz said it was caused by a fungus and, hence, subject to laboratory tests for positive identification. It spreads in two different ways—through natural root grafts between an infected and a healthy oak, and being carried overland by some means among which insects, birds and rodents are suspects.

Control of the disease, Dr. Bretz explained, consists of deeply trenching around infected trees to sever all roots, plus the removal and destruction of diseased oaks. Also, on the assumption that sap-feeding insects may be involved in the transmission of the disease, he advised that "conscientious efforts should be made to reduce or avoid wounding of oaks, or to protect necessary wounds, during the season when these insects are active and when bleeding of wounds is common." Overland spread of the oak wilt disease has been slow and on a restricted scale compared to that of the Dutch elm disease, he said.



AT SHELL TERMINAL OPENING—Speakers at the opening of the Shell Chemical Corp. anhydrous ammonia terminal opening in Pasco, Wash. are shown, top, gathered around a Shell-developed tractor rig for applying NH₃. From left to right they are Herbert G. West, Walla Walla, vice president of Inland Empire Waterways Assn.; V. C. Irvine, San Francisco, manager of sales for Shell Chemical Corp.; E. L. Peterson, assistant secretary of agriculture; G. R. Monkhouse, Shell Chemical vice president, and David H. Walbolt, Pasco, district manager for Shell. The lower photo shows the Ammonia Mariner as she looked when she arrived at San Francisco from Beaumont, Texas, where she was built. The three dark-topped tanks being hauled were later installed on river barge for use between Portland and Pasco. Mariner, 250 ft. long, has two tanks above deck and seven below and can haul 1,700 tons of ammonia.

IDAHO MEETINGS

(Continued from page 1)

Falls drew a combined total of about 400.

Getting down to the problems of soil testing by the extension service, Glen Lewis, agricultural chemist of the University of Idaho, said a test should be used with a lot of common sense in determining fertilizer needs, and called for cooperation of county agents, dealers and others concerned in using the same testing methods and interpretations.

Clarence Bechtolt, Canyon county agent, said the biggest headache in county laboratories was in getting farmers to collect a good, representative sample. He urged that they bring an adequate specimen of the field in question. It frequently happens, he said, that the soil is dug from one or two spots that are not typical, or the sample is sliced from the wrong depth.

Mr. Painter went on to say that the 2,000 samples analyzed annually are only a patch on what can be done. "Although soil testing began more than 100 years ago," he said, "it is still considered something new in Idaho. We still need more research in testing methods and field studies for correlation."

His summary of the last 10 years of testing showed that most Idaho soils have a desirable pH range. About 50% of the samples were low in phosphate. Nitrogen was low in most cases. There are high potash levels in most areas.

G. O. Baker, soils professor at the University of Idaho, emphasized three benefits from organic matter: (1) reserve supply of nutrients, (2) improvement of soil structure and (3) increased aeration and water permeability. He said crop residues need 1.2% to 1.3% nitrogen for organic matter formation without depressing crop yields. About 500 lb. of organic matter can be formed from a ton of dry crop residue such as straw, he said. High levels of organic matter are needed for maximum benefits from commercial fertilizer, he stated.

George Cleveland, assistant superintendent of the Caldwell branch experiment station, told the group that barnyard manure increases yield of pastures. He cited instances in which 15 tons to the acre doubled production. Along the same line it was pointed out that nitrogen fertilizer gives economical yields at 40 to 60 lb. to the acre. Nitrogen and phosphate can be used to regulate the ratio of grass to legumes. Addition of phosphate increases legumes. Nitrogen stimulates grasses. Fall fertilization can increase early spring grazing by 10 days. Pasture forage is more palatable to livestock when properly fertilized.

Split applications of nitrogen increase uniformity of grazing periods, the dealers were advised.

Lee Painter, soils technician at the Aberdeen Branch Experiment Station, said barnyard manure and green manure are important in potato production. He also emphasized the need for organic matter. He said nitrogen rates above 120 lb. to the acre decreased the yield of No. 1 potatoes. If phosphate was applied, the yield as well as the quality was increased. Eighty to 120 lb. nitrogen plus 80 lb. phosphate gave the highest economical returns—from \$100 to \$120 per acre increase from the fertilizer added, he said.

Research on wheat in northern Idaho was discussed by Roger Harder of the university staff. He said phosphate may become important but that little response has been shown so far. He did bear down on the need for nitrogen on wheat, and said phosphate is important in legume

production. He also pointed out the importance of sulfur and phosphate in the nitrogen carrier if the elements are required as plant nutrients.

Mr. Harder said wheat yields were economically increased by 80 lb. of nitrogen to the acre, but caution should be used at these high rates. Because more than average moisture is necessary for increased yields, burning may result, he said.

Moisture is more important than fertility in growing wheat on eastern Idaho dry lands, according to John Siddoway, a technician at the Teton Branch Station, and a speaker at some of the eastern sessions.

Panel discussions at each place hashed over mutual problems of supply, kind, rate of application, use of anhydrous nitrogen and the needs of various crops on a variety of soils. On the subject of supply it

was pretty well agreed that storage is still the main problem. Everybody wants fertilizer at once. It was felt there are adequate quantities of nitrogen and phosphate. An increase in use of anhydrous nitrogen was noted.

Representatives of manufacturers leading round tables included Dick Kube, Balfour-Guthrie Co., Spokane, Wash.; Norman Hibbert, Anaconda Copper Co., Yakima, Wash., and Ben McCollum, Simplot Co., Pocatello.

Summed up by one who attended all the meetings, "The course made it plain that what farmers want is reliable fertilizer service. We should give the farmer what he wants. We have to keep up on the latest research and be able to give the right recommendations."

HERCULES AWARD

FARGO — Fraine Zeitler, Grand Forks, has been awarded a gold watch for his 4-H activities in entomology. Donor of the award is Hercules Powder Co.

Potato Advisory Group Holds Field Meeting

WASHINGTON—The Potato Research and Marketing Advisory Committee of the U.S. Department of Agriculture this year combined inspection of harvesting and packing methods and a tour of research activities of experiment stations with its review of USDA potato research. The committee met Feb. 28 to March 3 in Florida.

March 1, committee members observed harvesting and packing house operations and inspected the field plots and trials of fungicides, insecticides, fertilizers and seed varieties at the Subtropical Experiment Station at Homestead, Fla.

At Miami the committee reviewed potato research program of USDA. One of its recommendations was to expand work on diseases and the genetics and breeding of commercially superior varieties having better eating quality and multiple resistance to diseases and insects.



You can't buy
better DDT than
PESTMASTER*
brand

NOW, DIRECT FROM US, PESTMASTER*DDT Technical for your dusts, wettable powders, solutions, and emulsions. This leading brand of 100% DDT is hard, clean, stable. Its use will add kill, stability and uniformity to your formulations. Phone, write or fill in the coupon below for prices, conditions and samples.

Users or exporters of 75% DDT Wettable powder should investigate our PESTMASTER* Brand. Review its resistance to tropical conditions, its uniform wettable and

suspension properties, its carefully controlled packaging which preserves its qualities. Remember, PESTMASTER* 75% DDT Wettable does the job when it gets on the job — Asia, Africa, South America, Europe, here at home—wherever you want it. Write for prices, conditions, samples. Use the coupon.

Send a sample of PESTMASTER* DDT

Technical Grade (100%) ☐

Prices ☐

Send a sample of PESTMASTER* 75%

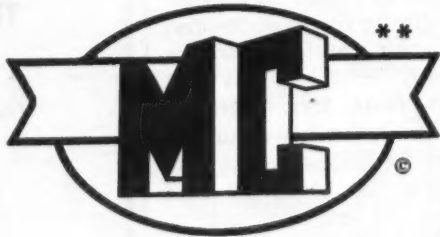
Wettable ☐

Prices ☐

Name.....

Company or Government Agency.....

City.....State.....Country.....



MICHIGAN CHEMICAL CORPORATION

501 N. Bankson Street, Saint Louis, Michigan

EASTERN SALES OFFICE

230 Park Avenue
New York 17, New York

*REG. U.S. PAT. OFF. **T.M.

D-55-1

QUALITY PRODUCER OF PESTMASTER* DDT & METHYL BROMIDE AND OTHER AGRICULTURAL CHEMICALS

Croplife[®]

A WEEKLY NEWSPAPER FOR THE FARM CHEMICAL INDUSTRY

The rotational circulation of this issue is concentrated in the Southern states.

PEST CONTROL PAYOFF

Program Saves Missouri \$50 Million

By STIRLING KYD

Extension Entomologist, Columbia, Mo.

During 1954, the control of insect pests meant in excess of \$50,000,000 to the people of Missouri. Large as this figure seems, it actually is a conservative estimate of the benefits derived from stopping a part of the damage from the many insect outbreaks that occurred during the year.

Last year's insect record was one of the worst in Missouri's history. Grasshopper numbers were higher than they had been for nearly 20 years. Two damaging broods of armyworms appeared, which was a situation never before recorded in the history of Missouri. Several species of cutworms were responsible for losses to forage and feed crops.

Aphid infestations were heavy in the early spring, and corn earworm damage to both field and sweet corn, soybeans, and tomatoes was extremely serious late in the summer.

Webworms, clover leaf weevils, spider mites, green clover worms, seed corn maggots, corn rootworms, and wireworms appeared in unusually large numbers and caused varying amounts of damage to a variety of crops.

During 1954, approximately 2,250,000 acres of pasture and crop land were sprayed for insect control. The returns from this spraying investment varied considerably according to crops involved and to weather conditions, but it is estimated that for each acre sprayed, farmers netted an average of \$10.

Had it not been for the drouth, this total figure of \$22,250,000 returns from the control of insects damaging feed and forage crops would have been considerably higher.

Livestock parasite numbers were not as high in 1954 as they are during most years. Populations of horseflies and ticks were unusually low, and screwworms were virtually absent. Hornflies caused substantial losses, however, and lice were particularly damaging to many herds.

County Agents estimate that 1,336,000 head of cattle were sprayed for lice, grubs, hornflies, or ticks. The increases in beef gains and milk production resulting from controlling these parasites, plus the increased incomes resulting from controlling lice and mange on hogs; scab, lice, and sheep tick on sheep; and from controlling parasites of poultry, returned Missouri farmers at least \$8,000,000.

During any year, production of fruits and vegetables is virtually an impossibility in Missouri unless insect control measures are used systematically. Codling moths and spider mites were especially troublesome in orchards in 1954. Aphids, cutworms, grasshoppers, blister beetles, bean beetles, cabbage worms, corn earworms, and spider mites were most serious pests of vegetable production. Control of these and other pests increased production of commercial and home-grown fruits and vegetables by at least \$7,000,000.

An unusually large amount of grain was in farm storage during the year. Much of this would have been seriously damaged if stored grain pests had not been kept at a low ebb by spraying bins before putting the grain in storage, by use of grain protectants, and by fumigating. Structural pests, such as termites and powder post beetles cause extensive losses each year if they are not brought under control. Flies and mosquitoes, when allowed to build up in large numbers not only become a serious hazard as spreaders of typhoid, dysentery, malaria, and several other human diseases, but they are also a persistent annoyance.

Although it obviously is difficult to assign a dollar value to the control of insects that affect the health and comfort of the general public, it is believed the efforts made to control these insects were worth at least \$15,000,000 to Missouri residents.

There is no way of estimating exactly how much of this \$50,000,000 increase resulted from Extension insect control programs. There is no doubt, however, that by continuously supplying farm people with up to date information on the insect situation over the state, and by supplying them with latest control measures to use when insect damage was threatened, the efforts of the Missouri Agricultural Extension Service has been responsible for a very sizeable portion of this figure.

Fertilizer Cost Still Low

That fertilizer is still the "best buy" the farmer makes was pointed out graphically in the U.S. Department of Agriculture's recent tabulation of farm costs. (Presented in Croplife, March 21.) According to the report made by Agricultural Research Service, the price of fertilizer has increased only 52% since the base period of 1935-1939, whereas most other commodities have more than doubled.

Of significance, yet more or less obscured in the data, is the fact that fertilizers are not only less expensive themselves, but that they also help to relieve pressure on the most expensive commodity of all; namely, labor. Along with the wise use of insecticides and fungicides and weed killers, fertilizer cuts labor costs tremendously thus reducing the unit of cost for producing crops.

According to the USDA figures, labor costs have gone up more than have any other factors in agricultural expense. The 300% rise is by far the most serious to consider, and we think it significant that it is in this area that the use of various chemicals cut costs.

Of added importance is the fact that the fertilizer prices described in the USDA report are on a tonnage basis over the 1935-39 levels. Figured on a plant food basis, however, the increase in fertilizer cost probably has been little more than one fourth as great because of the higher average plant food content of fertilizers today as compared with those of the base period.

Thus an important sales point presents itself. Dealers and manufacturers of fertilizers can well advertise this fact as being unique in the economics of farm supplies. Farmers should be made aware that no other commodity they buy can present such a story of not only low price, but positive results as well.

Quote

If a farmer from the year 1854 were allowed to visit a modern-day farm, he would be speechless at the progress made during the past century. If he could re-enter the farming business and use today's methods, machinery, fertilizers, and crop seed, he would find that TIME has become a different commodity. Where it took 6 hours to produce a bushel of wheat in 1854 it would take him only 6 minutes in 1954. The additional time gained by such efficiencies fits into the present-day system of living. The modernized Rip Van Winkle would find the answer to such unmatched progress in the form of research and education.—From: University of Wyoming Bulletin, through "Boron-o-Gram," Pacific Coast Borax Co.



CROPLIFE is a controlled circulation journal mailed to those responsible for the production and distribution of fertilizer and other farm chemicals and to retail dealers of the agricultural chemical industry in the U.S. To those not on the controlled list, CROPLIFE is available at \$5 for one year, \$9 for two years (\$8 a year outside the U.S. and possessions). Single copy price, 25¢.

LAWRENCE A. LONG

Editor

DONALD NETH

Managing Editor

EDITORIAL STAFF—George L. Gates, Market Editor; John Cipperly, Washington Correspondent; George E. Swarbrick, Canadian and Overseas Editor; Emmet J. Hoffman, Merchandising Editor; L. R. McDonald, Research Director; Frank W. Cooley and Roger Berglund, Assistant Editors.

WILFRED E. LINGREN

Advertising Director

BUSINESS STAFF—Carroll K. Michener, Chairman of the Board of Directors; H. J. Pattridge, Honorary Chairman; Harvey E. Yantis, President; Milton B. Kihlstrum, Executive Vice President and Treasurer; Martin E. Newell, Vice President; Don E. Rogers, Vice President; Wilfred E. Lingren, Secretary and Advertising Director; Thomas A. Griffin, Business Manager; Edwin J. Hartwick, Circulation Manager; James G. Pattridge, Assistant Treasurer; Carl R. Vetter, Advertising Production Manager; Peter G. Psychogios, Classified Advertising Manager.

BRANCH OFFICES

EASTERN STATES—George W. Potts, Paul L. Dittmore, Co-Managers, 114 East 40th St., New York 16, N. Y. (Tel. Murray Hill 3-3768).

CENTRAL STATES—Don E. Rogers, Manager; Henry S. French, Assistant Manager; 2272 Board of Trade Bldg., 141 W. Jackson Blvd., Chicago 4, Ill. (Tel. Harrison 7-6782).

SOUTHWEST—Martin E. Newell, Manager; James W. Miller, Assistant Manager; 614 Board of Trade Bldg., Kansas City 6, Mo. (Tel. Victor 1350).

WASHINGTON CORRESPONDENT — John Cipperly, 604 Hibbs Bldg., Washington, D. C. (Tel. Republic 7-8534).

EXECUTIVE AND EDITORIAL OFFICES—2501 Wayzata Blvd., Minneapolis, Minn., Tel. Main 0575. Bell System Teletype Service at Minneapolis (MP 179), Kansas City (KC 295), Chicago (CG 340), New York (NY 1-2452), Washington, D. C. (WA 82). Cable Address: "Palmking," Minneapolis.

Published by
The Miller Publishing Co.

2501 Wayzata Blvd.
Minneapolis, Minn.
(Address Mail to P.O. Box 67,
Minneapolis 1, Minn.)

Associated Publications
THE NORTHWESTERN MILLER
THE AMERICAN BAKER
FEEDSTUFFS
MILLING PRODUCTION

MEETING MEMOS

March 29-April 2—American Chemical Society, National Meeting, Netherlands Plaza Hotel, Cincinnati.

April 19—Minnesota Ground Sprayers Assn., Organizational Meeting, Conference Room of Coffey Hall, University of Minnesota Farm School, Jim March, Cambridge, Minn., Secretary.

Apr. 26 — Third Annual California Fertilizer Conference, sponsored by the Soil Committee, California Fertilizer Assn., University of California, College of Agriculture, Davis, Cal., Sidney H. Bierly, Executive Secretary, CFA, 475 Huntington Drive, San Marino, Cal.

May 15-17 — Chemical Specialties Manufacturers' Assn., Statler Hotel, New York.

May 19—Fertilizer Section, 25th Annual North Carolina Safety Conference, Robert E. Lee Hotel, Winston Salem, N.C.; William C. Creel, Safety Director, Department of Labor, State of North Carolina, Raleigh, Chairman.

June 2 — South Carolina Fertilizer Meeting, Sandhill Experiment Station, near Columbia, S.C.

June 3—Fertilizer Section, Virginia State Safety Association, Jefferson Hotel, Richmond, Va.; William C. Richardson Southern States Cooperative, Richmond, Chairman.

June 12-15—Joint meeting, American Plant Food Council, Inc. and National Fertilizer Association, Greenbrier Hotel, White Sulphur Springs,

W.Va. Paul T. Truitt, American Plant Food Council, 910 17th St. N.W., Washington, D.C., in charge of registration.

June 21—Spring Meeting, Western Agricultural Chemicals Assn., Clark Hotel, Los Angeles, Cal.

June 22—Pacific Slope Branch, Entomological Society of America, Mission Inn, Riverside, Cal.

June 28-30 — Sixth Annual Pacific Northwest Plant Food Assn. Regional Fertilizer Conference, Boise Hotel, Boise, Idaho, Leon S. Jackson, 702 Lewis Bldg., Portland, Ore., secretary.

Aug. 10—Kentucky Fertilizer Conference; Guilford Theatre, University of Kentucky, Lexington.

Aug. 15-19 — American Society of Agronomy and Soil Science Society of America, University of California, Davis Campus.

Sept. 7-9 — National Agricultural Chemicals Assn., Spring Lake, N.J.; Lea S. Hitchner, NAC Executive Secretary, 1145 19th St. N.W., Washington 6, D.C.

Sept. 7-9 — Ninth Annual Beltwide Cotton Mechanization Conference, Texas A&M College, National Cotton Council of America, Box 18, Memphis 1, Tenn.

Oct. 17-18 — Fertilizer Section, National Safety Congress, LaSalle Hotel, Chicago, Thomas J. Clarke, Chairman.

Nov. 2-3 — Annual Convention, Pacific Northwest Plant Food Assn., Pilot Butte Inn, Bend Ore., Leon S. Jackson, 702 Lewis Bldg., Portland, Ore., Secretary.

Nov. 7-8—California Fertilizer Assn., Thirty Second Annual Convention, Hotel Mark Hopkins, San Francisco, Sidney H. Bierly, Executive

Secretary & Manager, 475 Huntington Drive, San Marino, Cal.

Nov. 29-Dec. 2—Entomological Society of America, Netherlands Plaza Hotel, Cincinnati.

Dec. 5-7—Agricultural Ammonia Institute, Kansas City; Jack F. Criswell, Executive Vice President, Claridge Hotel, Memphis, Tenn.

Promising Results Reported from Khapra Beetle Control Test

MIDLAND, MICH.—Promising results for control of the khapra beetle have been reported from a test in California.

Federal and state authorities and experts from industry, in January, 1955, wrapped an entire million-cubic-foot warehouse in gastight covers, and, using two and a half tons of methyl bromide fumigant, treated the entire building inside and out, to see if they could eradicate the beetle from an infested storage building. For the test, The Dow Chemical Co. donated a large supply of methyl bromide.

Ten days later entomologists examined more than 150,000 insects. All were dead. At the thirty-day mark more than half a million khapra beetles were examined, and all were dead. Absence of young larvae indicated that eggs were probably killed, too.

Authorities are marking time for a 90-day check-up. If it proves satisfactory, it is considered probable that the unique process of wrapping and fumigating entire large buildings will be included under the approved control measure by which premises can be released from federal quarantine restrictions.

CALIFORNIA DEALERS MEETING

SACRAMENTO—The Lower San Joaquin Valley dealer group of the California Hay, Grain and Feed Dealers Assn. will meet March 29 at the Sequoia Club, Tulare. Rae Salzman is in charge of program arrangements.

Classified Ads

Classified advertisements accepted until Tuesday each week for the issue of the following Monday.

Rates: 15¢ per word; minimum charge \$2.25. Situations wanted, 10¢ a word; \$1.50 minimum. Count six words of signature, whether for direct reply or keyed care of this office. If advertisement is keyed, care of this office, 20¢ per insertion additional charged for forwarding replies. Classified advertising rate not available for commercial advertising. Advertisements of new machinery, products and services accepted for insertion at minimum rate of \$9 per column inch. All Want Ads cash with order.

FOR FAST ACTION AND RESULTS

try
Croplife's

**CLASSIFIED
ADVERTISING**

Frontier Leases Floor Of Airport Building

WICHITA—The Frontier Chemical Co., which has a \$3 million chemical plant southwest of Wichita, has just taken a ten-year lease for half of the second floor of the Wichita airport terminal building. The city has agreed to furnish adequate employee parking.

Wesley Sowers, executive vice president for the company, said: "We see some advantages in this unique location at the airport, as a large number of people we deal with arrive here by air."

**BRADLEY
& BAKER**
FEED • FERTILIZER

INDEX OF ADVERTISERS

Acme Fisher Div., Broadway Corp.	Ellsworth Equipment Co.	Pacific Coast Borax Co.
Acme Protection Equipment Co.	Export Chemical Corp. of Colorado	Pacific Plastics Company
Agricultural Chemicals Division,	Fischbein, Dave, Co.	Pennsylvania Salt Manufacturing Company
Pittsburgh Coke & Chemical Co. 6	Frontier Chemical Co.	of Washington
Agricultural Chemical Equipment Co.	Gandrud, E. S., Co.	Chas. Pfizer & Co., Inc.
Allied Chemical & Dye Corp., Nitrogen Div.. 10, 11	Geigy Agricultural Chemical Co.	Phelps-Dodge Refining Corp.
American Potash & Chemical Corp.	Gotcher Engineering & Mfg. Co.	Phillips Petroleum Company
Anco Manufacturing & Supply Co.	Grace Chemical Co. 7	Pittsburgh Coke & Chemical Company,
Ashcraft-Wilkinson Co.	Grand River Chemical Div., Deere & Co.	Agricultural Chemicals Division 6
Bagpak Division, International Paper Co.... 2	Hahn, Inc.	Potash Company of America 3
Baker, H. J., & Bro.	Hammond Bag and Paper Co. 23	Poulsen Company 4
Baughman Manufacturing Co.	Henderson Mfg. Co.	Powell, John & Co., Inc. 18
Bealrd, J. B., Company	Hercules Powder Co. 24	Private Brands, Inc.
Bemis Bro. Bag Co.	Highway Equipment Co.	Rapids Machinery Co.
Bradley & Baker 23	Hills-McCanna Co.	Savage, K. E., Co.
Broadway Rubber Corp.	Hypro-Engineering, Inc.	Schrock Fertilizer Service
Burkhardt-Larsen Co.	International Minerals & Chemical Corp.	Shell Chemical Corp. 12, 13
Burrows Equipment Co.	International Paper Co., Bagpak Division 2	Specifide, Inc.
Butler Manufacturing Co.	K. B. H. Corporation, The	Spencer Chemical Co.
Calcium Carbonate Co.	Kay Enterprises	Stoker, H. S., Company
California Spray-Chemical Corp. 16	Kraft Bag Corporation	Tennessee Corp. 19
Campbell, H. D., Co.	Larvacide Products, Inc.	Thompson-Hayward Chemical Co. 15
Chase Bag Co.	Lion Oil Co. 17	Union Bag and Paper Corp.
Chemical Specialties	The Mackwin Co.	United Petroleum Gas Co.
Chipman Chemical Co.	Markley Laboratories, The	U.S. Industrial Chemicals Co.
Clover Chemical Co. 4	Wilson & George Meyer & Co.	United States Potash Co.
Commercial Solvents Corporation	Michigan Chemical Corporation 21	U.S. Rubber Co., Naugatuck Chemical Div....
Croplife	Midstate Machinery Co.	United States Steel Corp.
Deere & Co., Grand River Chemical Div....	Naugatuck Chemical Div., U.S. Rubber Co. ...	Velsicol Corporation
Diamond Alkali Company	Nelson, Edward S., Ltd.	Virginia-Carolina Chemical Corp.
Doane Agricultural Service	Nitrogen Div., Allied Chemical & Dye Corp.. 10, 11	Vulcan Stamping & Mfg. Co.
Douglas Chemical Co.		Vulcan Steel Container Co. 5

TOXAPHENE IS THE ANSWER TO INSECT PEST PROBLEMS



QUESTION: Does a poisoning program with toxaphene pay off?

ANSWER: L. E. Taylor, Bradley, Arkansas—"By following through with toxaphene the entire season, and not quitting too early, I find the last two applications save enough cotton bolls to pay for the entire poisoning season. I have tried this the last three years, and find it very profitable."



QUESTION: As a dealer, why do you stock toxaphene?

ANSWER: Lawton Heidt, Cordele, Ga.—"I am convinced that toxaphene is the most effective poison for controlling the boll weevil and bollworm, which in this area seem to be the most destructive insects. I heartily recommend toxaphene in either spray or dust form to the cotton farmers."



QUESTION: How fast does toxaphene work?

ANSWER: Carl G. Yowell, Farmer City, Ill.—"I had a bad cutworm outbreak on my farm last spring. After spraying with toxaphene, I found nothing but dead worms the next day, and no additional damage. Toxaphene proved an excellent control."



QUESTION: Why is toxaphene your standard insecticide?

ANSWER: R. W. Young, Burkeville, Alabama—"We have never had a build-up of aphids or bollworms when we use toxaphene. I have used poisons of all kinds and find that I really like toxaphene best from the control it gives."

TOXAPHENE dusts • sprays

Agricultural Chemicals Division, Naval Stores Department

HERCULES POWDER COMPANY

INCORPORATED

931 King St., Wilmington 99, Delaware



Plants at Brunswick, Ga.; Hattiesburg, Miss. Offices at Atlanta, Ga.; Birmingham, Ala.; Brownsville, Texas; Boston, Mass.; Chicago, Ill.; Dallas, Texas; Denver, Colo.; Detroit, Mich.; Los Angeles, Cal.; New York, N. Y.; Raleigh, N. C.; St. Louis, Mo.; San Francisco, Cal.; Toronto, Canada

THE CHEMICAL BASE FOR TOXAPHENE IS PRODUCED BY HERCULES FROM THE SOUTHERN PINE

NX55-2